SHARP®

POINT OF SALE
PROCEDURE GUIDE

MODEL UP-800

WWW.SHARP-POS.COM

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SHARP UP-800 POS Procedure Guide

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Section – 1: SYSTEM PRESETS

Section-1: Overview

SRV-mode programming consists of service programming jobs, which define the UP-800 system capabilities. The service program settings may be printed on the report and journal printer or displayed on the operator display.

1. SRV-mode Program Main Menu:

SRV-mode Program Main Menu:	
Main Menu	Description
1 READING	Print or view system preset, device configuration, free key, file, and SSP settings.
2 SETTING	Program device configuration, system preset, Z counter, GT, mode secret #, free key, file, supervisor, memory initial, SSP settings or perform backup send and backup receive operations.
3 IRC SETTING	Program satellite, master, and backup master, standalone with IRC and stand alone terminal settings or perform an IRC reset.
4 DOWN LOAD	In an IRC system, transfer SRV parameters (system presets) and free key program settings from a master terminal to all or an individual satellite terminal on the existing IRC network.
5 DIAGNOSTIC	Perform product&test, ram&rom&ssp, lock&key&switch, serial I/O, display&printer, mcr&drawer, TCP/IP diagnostic testing. Please refer to the Service Manual for requirements and possible results.
6 SD CARD MODE	Perform SD card Load/Save operations.

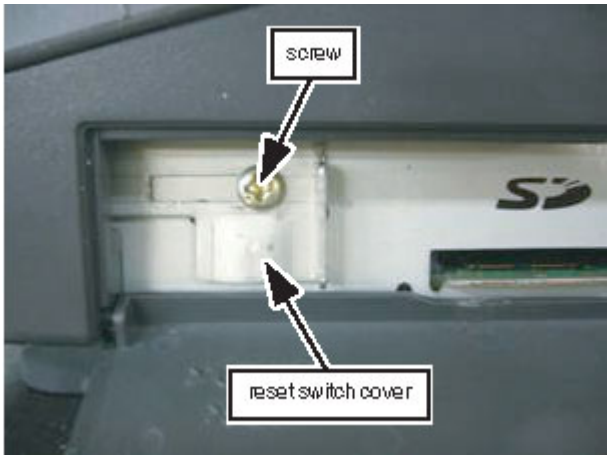
For more information on SRV Mode programming please see the UP-810F, UP-820N, UP-820F Service Programming Manual. Documentation is available on www.sharp-pos.com.

2. Entering SRV-Mode/Program Reset

To enter SRV Mode programming or to perform a program reset, you must toggle the Reset Switch to the on or forward position and then back to the original off position.

Procedure:

① Unscrew the plate covering the Reset Switch to gain access
② Set the Reset Switch to the “ON” or forward position
③ Set the Reset Switch to the “OFF” or original position.
④ Reattach the plate covering the Reset Switch.



Section-2: Prior to Beginning

Executing a master reset will initialize the UP-800 POS terminal. The following types of Program and Master Reset operations are available.

Type	Description
Program Reset	Initializes the hardware and resident program without clearing memory and totalizers
Master Reset-1	Initializes the hardware and clears the entire memory – restoring factory initial values
Master-Reset-2	Initializes the hardware and clears the entire memory – restoring factory initial values and enabling free key layout of the UP-800 “fixed keys”
Master Reset-3	Is the same as a Master Reset-2 and requires the entry of a serial number – also prohibiting the reset of the GT totalizers

1. Master Resets:

Follow one the below procedures when you wish to perform a Master Reset

Master Reset-1 Procedure:

① Set the reset switch to “OFF” position.
② While holding down the JOURNAL FEED key, set the reset switch to the “ON” position.
③ At the PASSWORD screen, enter the secret key operation below.

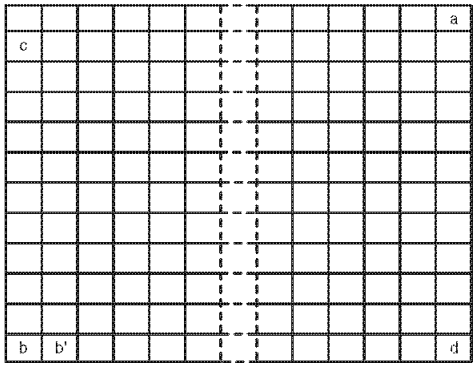
[Secret key operation]

This operation is used as password of MRS operation.
The following key sequence has to be entered after reset action.
If you operate wrong sequence then program reset is not performed.

a : The key located on right upper corner.
b : The key located on left lower corner. (Flat keyboard)
b’: The key located on left lower corner. (Normal keyboard)
c : The key located on left upper corner.
d : The key located on right lower corner.

- a→b→c→d

Key board layout



The Master Reset Operation will begin and is finalized upon ‘’3’’ audible beeps.

The SRV-mode Main Menu will appear:

Master Reset-2 Procedure:

① Set the reset switch to “OFF” position.
② While holding down the JOURNAL FEED key, and the RECEIPT FEED key, turn the reset switch to the “ON” position.
③ At the PASSWORD screen, enter the secret key operation above.
④ Enter the serial number.
⑤ Key position assignment.
⑥ Enter the keys on the key board [0]- [9], [00], [000] [.] [CL], [@/FOR], [SBTL], [MODE] [UP], [DOWN], [LEFT], [RIGHT], [HOME], [CANCEL] [ENTER], [CA/AT].
⑦ Push the key on the keyboard to be assigned. With this, the function key of the key number displayed is assigned to that key position.
⑧ When relocating the keyboard, the PGM 1/2 mode uses the standard key layout.

NOTE: After the execution of the MRS-2, only the RECEIPT FEED and JOURNAL FEED keys remain effective on the key assignment. Any key can be assigned to any key position on the main keyboard.

Master Reset-3 Procedure:

① Set the reset switch to “OFF” position.
② While holding down the JOURNAL FEED key, and the key located directly below it, turn the reset switch to the “ON” position.
③ At the PASSWORD screen, enter the secret key operation above.
④ Enter the serial number.
⑤ Key position assignment.
⑥ Enter the keys on the key board [0]- [9], [00], [000] [.] [CL], [@/FOR], [SBTL], [MODE] [UP], [DOWN], [LEFT], [RIGHT], [HOME], [CANCEL] [ENTER], [CA/AT].
⑦ Push the key on the keyboard to be assigned. With this, the function key of the key number displayed is assigned to that key position.
⑧ When relocating the keyboard, the PGM 1/2 mode uses the standard key layout.

The Master Reset Operation will begin and is finalized upon ‘’3’’ audible beeps.
NOTE: After the execution of the MRS-3, only the RECEIPT FEED and JOURNAL FEED keys remain effective on the key assignment. Any key can be assigned to any key position

Keyboard Layouts:

<UP-820N>

RECEIPT	JOURNAL	/ #			* &	(,	) .		(PAGE UP)	(↑)	(PAGE DOWN)	(MODE)	(HOME)
@ FOR	•	CL		A	F	K	P		(←)	(↓)	(→)	(CANCEL)	(ENTER)
7	8	9		B	G	L	Q		(BACK SPACE)	(INS)	(DEL)	(PREV. RECORD)	(NEXT RECORD)
4	5	6		C	H	M	R		U	W	Y	— _	(RECALL)
1	2	3		D	I	N	S		V	X	Z	(DC)	(UPDATE)
0		00		E	J	O	T			(SPACE)	(SHIFT)	SBTL	CA/AT

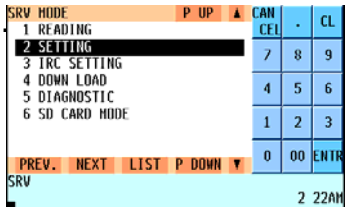
<UP-820F/UP-810F>

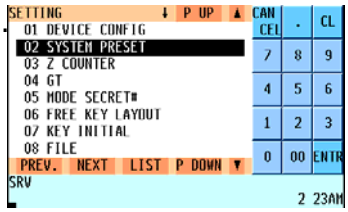
RESEPT	JOURNAL										(PAGE UP)	(↑)	(PAGE DOWN)	(MODE)	(HOME)
											(←)	(↓)	(→)	(CANCEL)	(ENTER)
[	]	Ñ	_	-	+	¿	{	}			(BACK SPACE)	(INS)	(DEL)	(PREV. RECORD)	(NEXT RECORD)
				"	'	?	<	>						— _	(RECALL)
!	@	#	$	%	^	&	*	(	)	=	@ FOR	•	CL	(DC)	(UPDATE)
Q	W	E	R	T	Y	U	I	O	P	/	7	8	9		
A	S	D	F	G	H	J	K	L	;	:	4	5	6		
Z	X	C	V	B	N	M	,	.		(DC)	1	2	3		
(SHIFT)	(SPACE)	(SPACE)	(SPACE)	(SPACE)	(SPACE)	(SPACE)	(SPACE)	(SPACE)	(SPACE)	(SHIFT)	0	00	000	SBTL	CA/AT

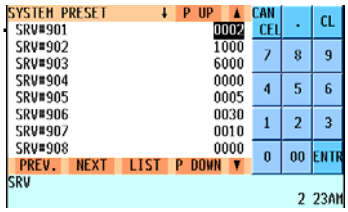
2. System Preset:

When making entries for system presets, leading zeros are not required. Please note that trailing zeros are required and that the order of entry is from the left-most digit (A) to the right-most digit (D).

Reference:

1. 

2. 

3. 

Section-3: System Preset Job No.

System Preset: 901

Bit	Description	Data	MRS
A	----Not Used	---	0
B	Tax System: Auto Tax 1-5 & Manual Tax System / Canadian Tax (Type 1-10) / Canadian Tax (Type-11: VAT-on-VAT)	0/6/7	0
	Enter the Desired Value ----^		
C	---Not Used, Fixed at '0'		0
D	Tab Setting: - Number of decimal places for display and print	3/2/1/0	2
	Enter the Desired Value ----^		

System Preset: 902

Bit	Description		Data	MRS
A	Inline operations are Enabled Yes/No		1/0	0
	Enter the Desired Value ----^			
B	1. Gift reload command to DataTran	2. REF# and AP code entry at Gift Sales In Void	---	0
	----AT&UM8	Compulsory	0	
		Not compulsory	2	
	----AT&UM20	Compulsory	4	
		Not compulsory	6	
	Enter the Desired Value ----^			
C	1. Operator Display Format	2. Gift Card Sales command for DataTran		Flat (0) Raised (4)
	GLU MODE	AT&UM4	0	
		AT&UM5	1	
	CHECK OUT MODE	AT&UM4	4	
		AT&UM5	5	
	Enter the Desired Value ----^			
D	---- Not Used – Do not change fixed at "0"		---	0

NOTE:

-902-A: is set automatically during the IRC Setting Terminal selection

-902-C=0 or 1: Will display open GLU upon sign-on, if using GLU or GLU recall to display manually.

-902-C must be set to 4 or 5 for scale interface.

System Preset: 903

Bit	Description		Data	MRS
A	IR (POS data copy) Baud Rate (bps): 38400/19200/9600/4800/2400		6/5/4/3/2	6
	Enter the Desired Value ----^			
B	1. Symbol of scale entry	2. Printing Gift Card No. at Gift Activates and Reloads		0
	LB	No	0	
		Yes	1	
	KG	No	2	
		Yes	3	
	Enter the Desired Value ----^			
C	Tare Weight Entry is **disallowed** / Scale Weight System **2** decimal places – 2ID(3ID)+2DD		0	0
	Tare Weight Entry is **disallowed** / Scale Weight System **3** decimal places 1ID(2ID)+3DD		1	
	Tare Weight Entry is **allowed** / Scale Weight System **2** decimal places 2ID(3ID)+2DD		2	
	Tare Weight Entry is **allowed** / Scale Weight System **3** decimal places 1ID(2ID)+3DD		3	
	Enter the Desired Value ----^			
D	Food Stamp System:	Forgiveness	3	Raised (3) Flat (0)
		Tax is payable w/ Food Stamps	2	
		Tax is NOT payable w/ Food Stamps	1	
		No Food Stamps / Cash Benefit	0	
	Enter the Desired Value ----^			

NOTE:
-903C = 0 for CAS Scale

System Preset: 904

Bit	Description		Data	MRS
A	1. Date is printed	2. Fraction treatment for gasoline quantity calculation		0
	Yes	Round Off	0	
		Round Up	1	
		Ignore	2	
	No	Round Off	4	
		Round Up	5	
		Ignore	6	
		Enter the Desired Value ----^		
B	1. Consecutive No. is printed	2. Decimal point position of gasoline quantity		0
	Yes	0	0	
		1	1	
		2	2	
		3	3	
	No	0	4	
		1	5	
		2	6	
		3	7	
		Enter the Desired Value ----^		
C	Gas Dept. Discount Fraction Calculation	Ignore/Round Up/Round Off	2/1/0	0
		Enter the Desired Value ----^		
D	Gas Dept. Unit Price Tab Position	3 decimal places/2 decimal places	2/0	0
	Gas Dept. Function is Enabled	Yes/No	1/0	
		Enter the SUM of the Desired Values ----^		

NOTE:

-904-A&B applies to Receipts, Guest Checks, and Kitchen Print chits

System Preset: 905

Bit	Description		Data	MRS
A	Tax4 Subtotal is printed on Trans. Reports	No/Yes	4/0	0
	Gross Tax4 & Refund Tax4 Totals are printed on Trans. Reports	No/Yes	2/0	
	Net Tax4 Total is printed on Trans. Reports	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
B	Tax is printed when the Taxable Subtotal = $0.00	Yes/No	4/0	0
	Tax is printed when GST is VAT	No/Yes	2/0	
	Tax is printed when Tax = $0.00	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
C	GST Exempt is printed on Trans. Reports	No/Yes	4/0	0
	Enter the Desired Value ----^			
D	Canadian Tax System: Type10/Type9/Type8/Type7/Type6/Type5/Type4/Type3/Type2/Type1		9/8/7/6/5/4/3/2/1/0	5
	Enter the Desired Value ----^			

NOTE:

-Trans. Report represents both X1/Z1 and X2/Z2

System Preset: 906

Bit	Description			Data	MRS
A	Dept. & PLU/UPC Codes are printed Yes/No			4/0	0
	PLU/UPC Stock System: Entry is Inhibited/Error Message and Operation continues/Allowed			2/1/0	
	Enter the SUM of the Desired Values ----^				
B	Bottle Return Function is Enabled Yes/No			4/0	0
	Hash/Gift Dept. is Enabled Yes/No			2/0	
	Enter the SUM of the Desired Values ----^				
C	1. Split pricing counting	2. Multiplication entry			3
	Quantity	Multiplication		0	
		Successive multiplication		1	
		Split pricing		2	
		FFx (FF sequence + split pricing)		3	
	Package	Multiplication		4	
		Successive multiplication		5	
		Split pricing		6	
		FFx (FF sequence + split pricing)		7	
	Enter the Desired Value ----^				
D	1. PLU/UPC Price Look Up at Refund Entry	2. Presetting of the Consecutive No.	3. Fractional Qty System is enabled (3 decimal places)		0
	No	Yes	No	0	
			Yes(3 decimal places)	1	
		No	No	2	
			Yes(3 decimal places)	3	
	Yes	Yes	No	4	
			Yes(3 decimal places)	5	
		No	No	6	
			Yes(3 decimal places)	7	
	Enter the Desired Value ----^				

NOTE:

-To enable Scale entries 906-D must be set = 1, 3, 5 or 7

-To allow OPEN type PLU entries 906-C FF(Fast Food Sequence) must be disabled.

-FF(Fast Food Sequence) cannot be used for Coupon Like PLU.

System Preset: 907

Bit	Description		Data	MRS
A	1. Entry of SCM(+)/(-) after registration	2. SCM input compulsory	---	0
	Disable	Non-compulsory	0	
		Compulsory for an individual cashier	1	
		Compulsory for all cashiers	2	
	Enable	Non-compulsory	4	
		Compulsory for an individual cashier	5	
		Compulsory for all cashiers	6	
	Enter the Desired Value ----^			
B	----		---	0
	UPC code is printed on the Journal	No/Yes	2/0	
	UPC code is printed on the Receipt	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
C	X report before CCD	Minus Dept. and PLU/UPC items are Enabled	---	1
	Disable	Disable	0	
		Enable	1	
	Enable	Disable	2	
		Enable	3	
	Enter the Desired Value ----^			
D	CCD compulsory		---	0
	Non-compulsory		0	
	For individual servers		1	
	For all servers		2	
	Enter the Desired Value ----^			

NOTE:

- To enable Coupon PLU items 907-C must be set = 1

System Preset: 908

Bit	Description			Data	MRS
GT printing on Z report					
A	GT1 (NET)	GT2 (+)	GT3 (-)		0
	Print	Print	Print	0	
			Skip	1	
		Skip	Print	2	
			Skip	3	
	Skip	Print	Print	4	
			Skip	5	
		Skip	Print	6	
			Skip	7	
			Enter the Desired Value ----^		
GT printing on X report				---	0
B	GT1 (NET)	GT2 (+)	GT3 (-)		
	Skip	Skip	Skip	0	
			Print	1	
		Print	Skip	2	
			Print	3	
	Print	Skip	Skip	4	
			Print	5	
		Print	Skip	6	
			Print	7	
			Enter the Desired Value ----^		
C	VOID-mode operations affect the Hourly Report		Yes/No	4/0	0
	----			---	
	Consecutive No. is Reset upon a Trans.-Z Report		Yes/No	1/0	
			Enter the SUM of the Desired Values ----^		
D	X/Z Report Printing:		Journal only/Receipt & Journal	4/0	0
	----			---	
	Trans.-Z1 Report resets the GT		Yes/No	1/0	
			Enter the SUM of the Desired Values ----^		

NOTE:

- 908-D: The X/Z Report printing option does not apply to Individual Server Report Trans-Z1 GT reset option is not allowed if a Master Reset 3 was executed.

System Preset: 909

Bit	Description		Data	MRS
A	Training GT is printed on the Trans.-X Report	Yes/No	2/0	2
	Training GT is printed on the Trans.-Z Report	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
B	PLU/UPC Item Data is printed on the Z Report	No/Yes	4/0	0
	Enter the Desired Value ----^			
C	VOID-mode & MGR VOID is printed on the Trans.-Z2 Report	No/Yes	4/0	0
	VOID-mode & MGR VOID is printed on the Trans.-Z1 Report	No/Yes	2/0	
	Enter the SUM of the Desired Values ----^			
D	---- Not used. Fixed at '0'		---	0

NOTE:
-909-B: No Sales Data is printed for the PLU-Z Report when = 4

System Preset: 910

Bit	Description		Data	MRS
A	The Cash Drawer opens at Server Sign-On	Yes/No	2/0	0
	Enter the Desired Value ----^			
B	----Not used. Fixed at '0'		---	0
C	Server/Cashier Sign-on System	Auto Sign-Off/Stay-Down	2/0	2
	Enter the Desired Value ----^			
D	(Fixed): Server/Cashier system is code entry		4	4

System Preset: 911

Bit	Description		Data	MRS
A	Fractional Qty System:	Ignored/Round-Up/Round-Off	2/1/0	0
	Enter the Desired Value ----^			
B	UPC (EAN) Check Digit System Checking is Enabled	Yes/No	4/0	0
	Enter the Desired Value ----^			
C	---- Not used. Fixed at '0'		---	0
D	Receipt/Journal/(Bill)Slip Header Format:	Format-3/Format-2/Format-1	4/2/0	0
	Enter the Desired Value ----^			

NOTE:
- 911-A: Must be set for rounding for Scale operations = 0
- 911-B: You cannot modify this setting once UPC codes have been preset in the system

System Preset: 912

Bit	Description		Data	MRS
A	Date Print Format	YYMMDD/DDMMYY/MMDDYY	2/1/0	0
		Enter the Desired Value ----^		
B	Time Clock System	24-Hour System/12-Hour System	1/0	0
		Enter the Desired Value ----^		
C	Receipt After-Transaction Format	Detailed/Totals only	4/0	6
	Copy Receipt Function is Enabled	Yes/No	2/0	
	Receipt Footer Print Control	By Media Preset/All Receipts	1/0	
		Enter the SUM of the Desired Values ----^		
D	Logo Message Control:	3-Line Header – No Stamp	0	1
		Graphic Logo Stamp only	1	
		Graphic Logo Stamp & 3-Line Footer	2	
		6-Line Header – No Stamp	3	
		3-Line Header – No Stamp/3-Line Footer	5	
		Enter the Desired Value ----^		

System Preset: 913

Bit	Description		Data	MRS
A	Content of total VP amount		---	1
	Total Amount		0	
	Tendered Amount		1	
		Enter the Desired Value ----^		
B	Subtotal is printed when the [SBTL] key is depressed	Yes/No	4/0	1
	Merch. Subtotal is printed when the [MDSE] key is depressed	Yes/No	2/0	
	Escaping Compulsory VP/slip print is Enabled	Yes/No	1/0	
		Enter the SUM of the Desired Values ----^		
C	----		---	0
	Error-Tone System	Until [CL] is depressed/2 seconds	2/0	
	Keyboard Buffering is Enabled	No/Yes	1/0	
		Enter the SUM of the Desired Values ----^		
D	Compulsory Drawer Closed prior to operation is enabled	Yes/No	4/0	4
	Error System	“Misoperation”/One-Shot Error only	2/0	
	Key Touch-Tone is enabled	No/Yes	1/0	
		Enter the SUM of the Desired Values ----^		

NOTE:

- 913-B: The sequence for escaping “Compulsory” Bill print operations: → [.] → [BILL] or →[.]→[SLIP]

System Preset: 914

Bit	Description		Data	MRS
A	Receipts are printed upon [NO SALE] operations	No/Yes	4/0	1
	The [NO SALE] function is combined with the [CASH] key	Yes/No	2/0	
	Tax Delete function is Enabled	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			
B	The [NO SALE] function is allowed after a Non-Add No. entry	Yes/No	1/0	1
	Enter the Desired Value ----^			
C	VOID-mode is Enabled	No/Yes	2/0	0
	Non-Add # Entry is Compulsory at the beginning of each Trans.	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			
D	Manual Tax entry is Enabled	No/Yes	4/0	0
	Check-Cashing function is Enabled	Yes/No	2/0	
	Non-Add # Entry is Enabled	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			

System Preset: 915

Bit	Description		Data	MRS
A	----		---	0
	----		---	
	Dollar Amount Symbol	(Space), (*) Asterisk, ($) Dollar Symbol	0/1/2	
	Enter the Desired Value ----^			
B	----		---	0
	----		---	
	[PO] System	Cash only/Mixed-Tender	1/0	
	Enter the Desired Value ----^			
C	1. Number of ST(-) or ST(%) entries within one transaction	2. RA system	---	4
	Any number of times	Mixed entry	4	
		Cash only entry	5	
	Once	Mixed entry	6	
		Cash only entry	7	
	Enter the Desired Value ----^			
D	---- Not Used. Fixed at '0'		---	0

System Preset: 916

Bit	Description		Data	MRS
A	----		---	1
	----		---	
	Print when the No. Text Characters overlap the Amount	2-Line/Truncate	1/0	
	Enter the Desired Value ----^			
B	Charge Media Finalization when the Amount = $0.00	Yes/No	4/0	4
	----		---	
	Food Stamp SBTL is Compulsory before FS-Tender	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			
C	Allow the MDSE SBTL to go Negative	No/Yes	4/0	0
	[SBTL] Entry is Compulsory before Tendering Finalization	Yes/No	2/0	
	[SBTL] Entry is Compulsory before Direct Finalization	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			
D	Coupon PLU Totalizer prints on the Trans.-(X/Z) Reports	No/Yes	4/0	0
	NET Sales SBTL (NET1) is printed on the Trans.-(X/Z) Reports	No/Yes	2/0	
	Check change Totalizer is printed on the Trans.-(X/Z) Reports	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			

NOTE:
-916-C: Allow the sales transaction to go negative

System Preset: 917

Bit	Description		Data	MRS
A	Tax1 Subtotal is printed on Trans. Reports	No/Yes	4/0	0
	Gross Tax1 & Refund Tax1 Totals are printed on Trans. Reports	No/Yes	2/0	
	Net Tax1 Total is printed on Trans. Reports	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
B	Tax2 Subtotal is printed on Trans. Reports	No/Yes	4/0	0
	Gross Tax2 & Refund Tax2 Totals are printed on Trans. Reports	No/Yes	2/0	
	Net Tax2 Total is printed on Trans. Reports	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
C	Tax3 Subtotal is printed on Trans. Reports	No/Yes	4/0	0
	Gross Tax3 & Refund Tax3 Totals are printed on Trans. Reports	No/Yes	2/0	
	Net Tax1 Total is printed on Trans. Reports	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
D	Total Tax is printed on the Trans.-(X/Z) Reports	No/Yes	4/0	0
	Gross & Ref. Manual Tax Totals are printed on Trans. Reports	No/Yes	2/0	
	Net Manual Tax Totalizer is printed on Trans.-(X/Z) Reports	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			

System Preset: 918

Bit	Description		Data	MRS
A	Assoc. PLU Text of Combo Meals is printed	No/Yes	4/0	2
	Direct-Tender for 2nd or subsequent tender is allowed	Yes/No	2/0	
	Combo Meal Kitchen Printer printing is by	Combo Meal's KP/by PLU's KP	1/0	
	Enter the SUM of the Desired Values ----^			
B	----		---	2
	PLU is printed in RED when the unit price is $0.00	Yes/No	2/0	
	Fractional entries allowed for non-Scalable Dept. & PLU items	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
C	----		---	3
	Kitchen Printer output Groups Like Items	No/Yes	2/0	
	Kitchen Printer output prints Dept. & PLU Text in Double-Sized	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			
D	Tip Paid function includes Cash Tips	No/Yes	4/0	3
	Tip Totals are Reset upon executing a Server Z1 Report	Yes/No	2/0	
	Tip Totalizer is printed on the Server Report	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			

NOTE:

- 918-C: Does not apply to items that are entered as part of a Condiment entry

System Preset: 919

Bit	Description		Data	MRS
A	Guest Check System	GLU (detail)/PBLU (totals)	4/2	5
	----		---	
	GLU/PBLU Entry is Compulsory for Reorder Entries	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
B	Checking of Server# for Guest Check Entries when re-ordering	No/Yes	4/0	1
	----		---	
	Guest Check Number-System Entry	Manual/Auto-Generate	1/0	
	Enter the SUM of the Desired Values ----^			
C	----		---	0
	[GLU/PBLU] Entry is Compulsory	Yes/No	2/0	
	Amount Prints when PLU Unit Price is $0.00 (recei[pt/bill)	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			
D	Normal SBTL is printed in addition to the Conversion SBTL	No/Yes	4/0	0
	----		---	
	Foreign Currency Format	Omit Decimal Digits/Not	1/0	
	Enter the SUM of the Desired Values ----^			

NOTE:

- 919-B: Requires that the Auto GLU Gen (File 40) is allocated.
- 919-C: Text will always print even if Amount prints when PLU Unit Price is $0.00.

System Preset: 920

Bit	Description		Data	MRS
A	----		---	2
	---		---	
	Back-Up Master Function is Enabled	Yes/No	3/2	
	Enter the Desired Value ----^			
B	Back-Up Master can perform System Reports & Download Jobs	No/Yes	0/4	0
	----		---	
	----		---	
	Enter the Desired Value ----^			
C	Inline Download Jobs are Broadcasted (vs. sending individual)	No/Yes	4/0	4
	----		---	
	PGM2-Mode Programming is allowed at the Satellite Terminal	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			
D	The POS Terminal Type	Back-up Master	3	0
		Master	2	
		Satellite	1	
		Standalone	0	
	Enter the Desired Value ----^			

NOTE:

- 920-D: This is setting is determined in the IRC Setting / Terminal Setting Programming in the SRV Mode.

System Preset: 921

Bit	Description		Data	MRS
A	Convert UPC-E codes to UPC-A	Yes/No	4/0	0
	----		---	
	----		---	
	Enter the Desired Value ----^			
B	GLU System Control	Each Terminal/Centralized (Master)	4/0	0
	----		---	
	----		---	
	Enter the Desired Value ----^			
C	----		---	0
	----		---	
	Bill Printing Method:	Item Data Is Retained/Item Data is Cleared	1/0	
	Enter the Desired Value ----^			
D	Individual Server Report executes the Tip Paid function	No/Yes	0/4	0
	----		---	
	----		---	
	Enter the Desired Value ----^			

NOTE:

- 921-A: Do not modify this setting once UPC codes have been preset
- 921-C For roll/soft check printers only.

System Preset: 922

Bit	Description	Data	MRS
A	---- Not used. Fixed at '0'	---	0
B	$1 Coin Dispenser Handling is Enabled Yes/No	0/1	0
	Enter the Desired Value ----^		
C	---- Not used. Fixed at '0'	---	0
D	---- Not used. Fixed at '0'	---	0

System Preset: 923

Bit	Description	Data	MRS
A B	The No. of Records which are requested for the T-Log Polling Function (x 100) example: if AB = 15; then the Satellite will request for T-Log polling when the no. of records reaches 1500 (15 x 100) * see Note below when referring to a Master or Standalone terminal	0 - 99	00
	Enter the Desired Value ----^		
C	----	---	1
	----	---	
	T-Log Function is Enabled Yes/No	1/0	
	Enter the Desired Value ----^		
D	----	---	0
	----	---	
	T-Log Polling Cycle (seconds)	0 - 9	
	Enter the Desired Value ----^		

NOTE:

- 923-A+B: Satellite Terminals
  - (AB setting) x (100) = No. Records stored before the Satellite makes its request to the Master to poll the T-Log data

  Master Terminals
  - AB = 00: T-Log Data sending to the MWS PC is disabled
  - AB = 01 – 99: (AB setting) x (100) = No. Records stored before the Master makes its request to the MWS PC to poll T-Log data

- 923-D: This setting is the wait-cycle (in seconds) for the Master when making the next T-Log polling request

System Preset: 924

Bit	Description		Data	MRS
A	(Fixed at 1)		1	1
B	(Fixed at 4)		4	4
C	(Fixed)		2	3
	(Fixed)		1	
D	Inline System Control upon Individual Z2 Resetting Reports	Lock After Ind. Daily Net Z2 Report	2/0	3
		Lock after Ind. Trans. Z2 Report	1/0	
	Enter the SUM of the Desired Values ----^			

System Preset: 925

Bit	Description		Data	MRS
A	---- Not used. Fixed at '0'		---	0
B	Various Individual report jobs are allowed	Yes/No	3/0	3
	Enter the Desired Value ----^			
C	Print format for Consol. Reports:			0
	Individual only		2	
	Consolidated only		1	
	Individual & Consolidated		0	
	Enter the Desired Value ----^			
D	----		---	3
	Allow resetting reports while Server remains signed-on	Yes/No	2/0	
	Allow resetting reports while the store is open	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			

NOTE:
925-B: When selecting No = "0", only the Master will be able to reset the reports

System Preset: 926

Bit	Description		Data	MRS
A	----		---	0
	Direct Voids and the Voided item is printed on the KP	No/Yes	2/0	
	Past Voids and the Voided item is printed on the KP	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
B	Refunded Data is sent to the KP	No/Yes	2/0	0
	Enter the Desired Value ----^			
C	Open/Close Store operation is Enabled for Standalone w/ Online	Yes/No	4/0	0
	Send AT Command String when Open Store is Executed	Yes/No	2/0	
	Send AT Command String when Close Store is Executed	Yes/No	1/0	
	Enter the SUM of the Desired Values ----^			
D	Online Channel is Reversed in Close Store state	Yes/No	4/0	0
	Enter the Desired Value ----^			

System Preset: 927 (Not Used)

Bit	Description	Data	MRS
A	---- Not used. Fixed at '0'	---	0
B	---- Not used. Fixed at '0'	---	0
C	---- Not used. Fixed at '0'	---	0
D	---- Not used. Fixed at '0'	---	0

System Preset: 928

Bit	Description		Data	MRS
A	SLIP Logo Text is Printed	Yes/No	1/0	0
	Enter the Desired Value ----^			
B	----		---	0
	VP Message printing on Slip is Enabled for Check & Charge	Yes/No	2/0	
	Header is Printed on Slip when Reorder entries are printed	No/Yes	1/0	
	Enter the SUM of the Desired Values ----^			
C	PLU is printed on the [BILL] when the unit price = $0.00	No/Yes	4/0	6
	Combo Meal Individual PLU Item Text is printed on the [BILL]	No/Yes	2/0	
	Enter the SUM of the Desired Values ----^			
D	1. Printing of PB/Service on bill at re-order	2. Compulsory Bill Print System:		0
	Yes	According to each media's preset	0	
		Compulsory for every entry	1	
		Compulsory for PB	2	
	No	According to each media's preset	4	
		Compulsory for every entry	5	
		Compulsory for PB	6	
	Enter the Desired Value ----^			

System Preset: 929

Bit	Description		Data	MRS
A	KP Print format for Media Keys Detailed/Summary		1/0	0
	Enter the Desired Value ----^			
B	Server & Trans.-Z Resetting is allowed when Open GLUs exist Yes/No		1/0	
	Enter the Desired Value ----^			
C	1. Mark Down and entry system	2. Registration when the closed file is full	---	0
	Normal markdown/Normal entry	Inhibited	0	
		Continue	1	
	Cursor markdown/Normal entry	Inhibited	2	
		Continue	3	
	Cursor markdown/BOGO entry	Inhibited	6	
		Continue	7	
	Enter the Desired Value ----^			
D	1. Selection method of seal character of TAX contents in BILL	2. Taxable status of PLU/UPC which is set to 'Non-Taxable'		
	The total of the tax amount is printed	According to the associated department	0	0
		Non-Taxable	2	
	Tax Print Method and PLU/UPC Tax Status Setting	According to the associated department	4	
		Non-Taxable	6	
	Enter the Desired Value ----^			

System Preset: 980

Bit	Description	Data	MRS
A	---- Not used. Fixed at '0'	---	0
B	HASH/Gift department entries affect hourly sales totals Yes/No	1/0	0
	Enter the Desired Value ----^		
C	---- Not used. Fixed at '0'	---	0
D	---- Not used. Fixed at '0'	---	0

System Preset: 981 (RESERVED)

Bit	Description	Data	MRS
A	---- Not used. Fixed at '0'	---	0
B	---- Not used. Fixed at '0'	---	0
C	---- Not used. Fixed at '0'	---	0
D	---- Not used. Fixed at '0'	---	0

System Preset: 986

Bit	Description		Data	MRS
A	CAT2	SECL CAT/DATA TRAN	0/2	2
	Enter the Desired Value ----^			
B	---- Not used. Fixed at '0'		---	0
C	Sub-total void in customer entry	Enable/Disable(MGR Only)	0/4	0
	Enter the Desired Value ----^			
D	PLU/UPC printing on receipt when it's zero	Yes/No	0/1	0
	Enter the Desired Value ----^			

System Preset: 987

Bit	Description	Data	MRS
A	---- Not Used – Fixed at '0'	---	0
B	Age limit function can be overridden in MGR Mode Disable/Enable	0/2	0
	Enter the Desired Value ----^		
C	---- Not Used – Fixed at '0'	---	0
D	---- Not Used – Fixed at '0'	---	0

System Preset: 988

Bit	Description		Data	MRS
A	1. Customer Code entries finalized by	2. Payment by charge1 over customer charge amount	---	0
	Charge1 only	Enable	0	
		Disable	1	
	Any payment type	Enable	2	
		Disable	3	
	Enter the Desired Value ----^			
B	Control characters for EJ data saved to the SD card.	No spaces/spaces	0/2	0
	Enter the Desired Value ----^			
C	---- Not Used – Fixed at '0'		---	0
D	---- Not Used – Fixed at '0'		---	0

NOTE:
988-B: Control characters (From code:0x00 to 0x1F, 0xFF); Space character = (0x20)

System Preset: 801 **(Not Used)**

Bit	Description	Data	MRS
A	---- Not used. Fixed at '0'	---	0
B	---- Not used. Fixed at '0'	---	0
C	---- Not used. Fixed at '0'	---	0
D	---- Not used. Fixed at '0'	---	0

System Preset: 802

Bit	Description		Data	MRS
A	---- Not Used. Fixed at '0'		---	0
B	---- Not Used. Fixed at '0'		---	0
C	---- Price level of auto combo item	1/2/3/4/5/6	0/1/2/3/4/5	0
	Enter the Desired Value ----^			
D	---- Not Used. Fixed at '0'		---	0

System Preset: 803

Bit	Description		Data	MRS
A	Over ring entry prompt at CCD	No/Yes	0/1	0
	Enter the Desired Value ----^			
B	---- Not Used. Fixed at '0'		---	0
C	---- Not Used. Fixed at '0'		---	0
D	---- Not Used. Fixed at '0'		---	0

System Preset: 804

Bit	Description			Data	MRS
A	---- Not Used. Fixed at '0'			---	0
B	----			---	0
	---- Not Used. Fixed at '0'			---	
C	1. Taxable SUBTOTAL5 (X/Z)	2. Gross TAX5,Refund TAX5 total (X/Z)	3. Net TAX5 total (X/Z)	---	0
	Printed	Printed	Printed	0	
			Not Printed	1	
		Not Printed	Printed	2	
			Not Printed	3	
	Not Printed	Printed	Printed	4	
			Not Printed	5	
		Not Printed	Printed	6	
			Not Printed	7	
	Enter the Desired Value ----^				
D	---- Not Used. Fixed at '0'			---	0

Z Report Counter - 930

Counter	Description	No. Digits	MRS
Transaction Z1	Transaction Z1 Report Counter	(4 digits)	0000
Consol. Trans. Z1	System Transaction Z1 Report Counter	(4 digits)	0000
Server Z1/Z2	Server Z1/ Z2 Report Counter	(4 digits)	0000
Hourly Z1	Hourly Z1 Report Counter	(4 digits)	0000
PLU/UPC Z1/Z2	PLU/UPC Z1/Z2 Report Counter	(4 digits)	0000
GLU Z1	GLU/PBLU Z1 Report Counter	(4 digits)	0000
Transaction Z2	Transaction Z2 Report Counter	(4 digits)	0000
Consol. Trans Z2	System Transaction Z2 Report Counter	(4 digits)	0000
Daily Net Z2	Daily Net Sales Z2 Report Counter	(4 digits)	0000
Department Z1	Department Z1 Report Counter	(4 digits)	0000
Department Z2	Department Z2 Report Counter	(4 digits)	0000
EJ Z1	EJ Z1 Report Counter	(4 digits)	0000

GT Report Counter - 942

Counter	Description	No. Digits	MRS
Positive GT	GT2 (Positive): 13 digits	(13 digits)	0000000000000
Negative GT	GT3 (Negative): 13 digits	(13 digits)	0000000000000
Training GT	Training GT: 13 digits	(13 digits)	0000000000000

Mode Secret Code - 944

Counter	Description	No. Digits	MRS
OP X/Z Mode	OP X/Z Mode Secret Code	(4 digits)	0000
X1 Mode	X1 Mode Secret Code	(4 digits)	0000
Z1 Mode	Z1 Mode Secret Code	(4 digits)	0000
X2 Mode	X2 Mode Secret Code	(4 digits)	0000
Z2 Mode	Z2 Mode Secret Code	(4 digits)	0000
PGM1 Mode	PGM1 Mode Secret Code	(4 digits)	0000
PGM2 Mode	PGM2 Mode Secret Code	(4 digits)	0000
SD Card Mode	SD Card Mode Secret Code	(4 digits)	0000

Section – 2: FREE KEY LAYOUT

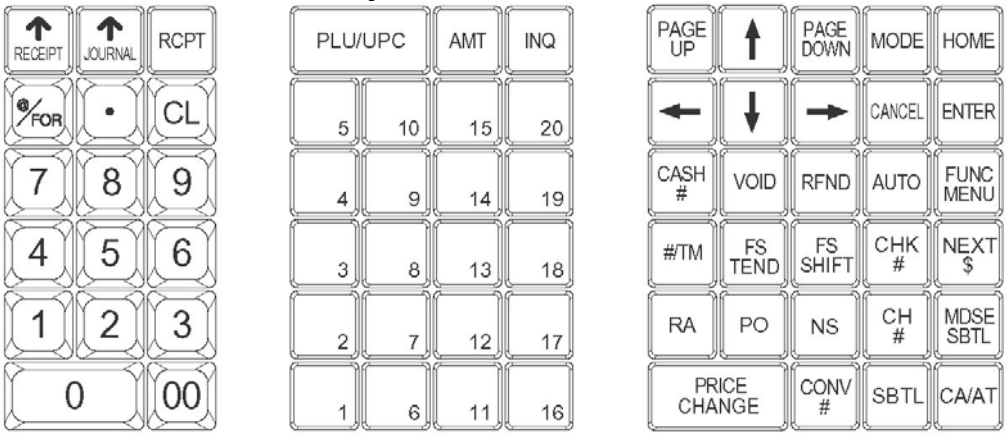
Section-1: Overview

Free Key programming allows you to place function keys other than department, PLU and combo table keys directly onto a key position. The Free Key programming is used to design the POS keyboard based on the end user's requirements.

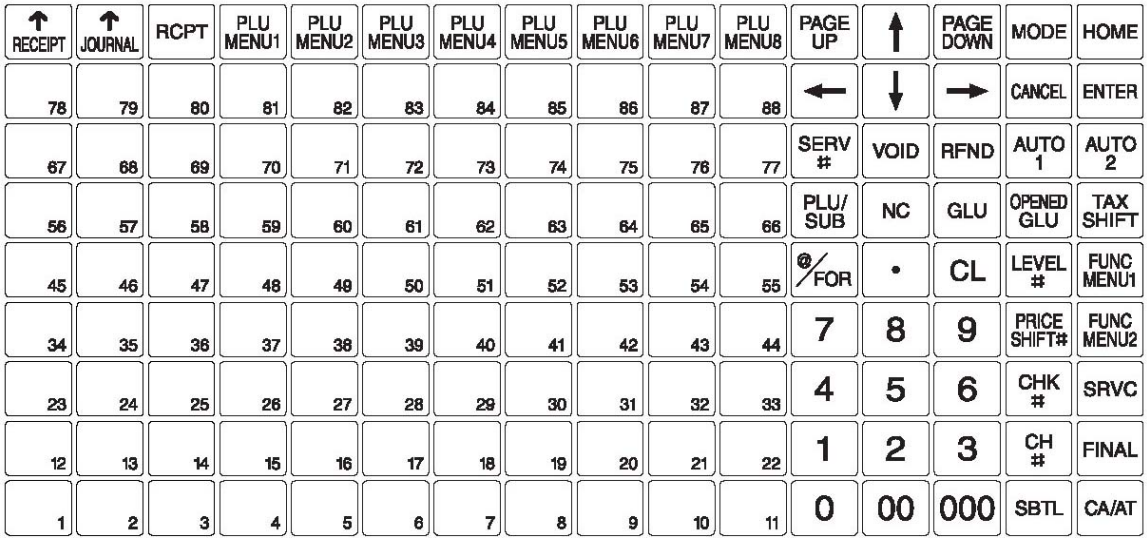
Direct Key programming allows you to link a PLU, DEPT, or Combo Table to a key position on the keyboard for direct registration based on the end user's requirements.

The UP820N keyboard default (MRS) is raised type popular (common) to Retail environments. The UP810F/820F keyboard default (MRS) is flat type offering protection against spills and wet hands common in Quick Service and Table Service establishments.

UP820N Master Reset Keyboard



UP810F/820F Master Reset Keyboard



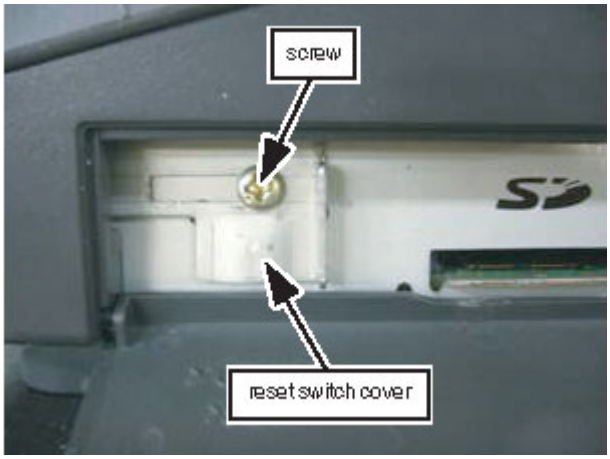
Section-2: Free Key Layout Readings

1. Entering SRV-Mode

To enter SRV Mode programming or to perform a program reset, you must toggle the Reset Switch to the on or forward position and then back to the original off position.

Procedure:

① Unscrew the plate covering the Reset Switch to gain access
② Set the Reset Switch to the “ON” or forward position
③ Set the Reset Switch to the “OFF” or original position.
④ Reattach the plate covering the Reset Switch.



CAUTION:
SRV Mode may be entered even though the Standby Switch is not set to the “ON” position. Once SRV Mode is exited, no operation is possible unless the Standby Switch is in the “ON” position.

2. Free Key and Direct Key Program Readings:

In SRV–mode, it is possible to print the Free Key assignment:

SRV-mode Free Key Reading:

① Enter SRV-mode
② Select [1 READING]
③ Select [3 FREE KEY LAYOUT]
④ Select [1 HOME MENU DISPLAY] to print the key assignment for the touch screen, or select [2 KEYBOARD LAYOUT] to print the key assignment for the keyboard.
⑤ Select [1 DISPLAY] to view the report's contents on the touch screen, or select [2 REPORT PRINTER] to print the report

PGM2-mode Direct Key Reading:

Enter the PGM2-Mode by pressing [MODE] → [6 PGM2 MODE]
① Select [1 READING]
② Select [31 DIRECT KEY]
③ Select [1 DISPLAY] to view the report's contents on the touch screen, or select [2 REPORT PRINTER] to print the report

Section-3: Free Key Layout Setup

There are 402 function numbers available for assignment to a physical key position. These function numbers may be assigned to multiple key positions.

Typically, a function must exist on the keyboard in order to update and report the associated total(s) in memory with sales amounts.

A function must exist on the keyboard before any associated PGM mode programming can be performed.

1. Free Key Assignment

Free Key programming allows you to place function keys other than department, PLU and combo table keys directly onto a key position.

Procedure for keyboard:
① Enter SRV Mode
② Select [2 SETTING]
③ Select [06 FREE KEY]
④ Select [2 KEYBOARD LAYOUT]
⑤ Select [01 <028 ALL FUNC.KEY>]
⑥ Highlight the function in the touch screen list, and touch the desired key on the keyboard to place.

Procedure for touch screen:

① Enter SRV Mode
② Select [2 SETTING]
③ Select [06 FREE KEY]
④ Select [1 HOME MENU DISPLAY]
⑤ Select [1 SETTING]
⑥ Select touch screen key position
⑦ Select [01 <028 ALL FUNC.KEY>]
⑧ Choose the desired function and press [ENTER]

A maximum of 15 free keys may be assigned to the touch screen.

Free Key Function List

Function No.	Function	Description
999	INHIBIT	Removes previously assigned function
1-12	0 KEY-000KEY	Numeric Keys
13	. KEY	Decimal Point Key
14	CL	Clear Entry
15	X/QTY	Multiplier Key
16	SUB TOTAL	Displays Transaction Total with Tax
17	MODE	Opens the mode menu in the touch screen display
18	UP	Move the Cursor Up
19	DOWN	Move the Cursor Down
20	LEFT	Move the Cursor Left
21	RIGHT	Move the Cursor Right
22	HOME	Displays the REG mode Home screen
23	CANCEL	Cancel Programming or an Entry or Page Back
24	ENTER	To Save an Entry or Page Forward
25	TOTAL (CA/AT)	Cash Media Totalizer, Finalized Programmed Data
26	P UP	Page Up to the Next Screen or Menu
27	P DOWN	Page Down to the Next Screen or Menu
28	BKSPC	Back Space use when programming or editing
29	DEL	Deletes a highlighted item or text on the screen
30	MDS ST	Displays Transaction Total without Tax
31	TRY ST	Displays and Print s a Tray Subtotal per Order
32	GAS ST	Gasoline sales subtotal key
33	#/TM	Use to Enter Non Add Numbers
34	NS	No Sale Key
35	SCALE	Displays Weight from the Scale
36	PLU	Price Look Up Key
37	FS/CBN SHIFT	Used to shift Food Stamp/Cash benefit status
38	VALIDATION PRINT	Validation Print Key
39	BILL	Use to print the bill /guest check on a soft/hard check print
40	RCPT	Use to issue a copy receipt
41	G.C. Copy	Use to issue a guest check copy receipt
42	CHARGE TIP	Use to add a charge tip to a guest check
43	CASH TIP	Use to add a cash tip to a guest check
44	TIP PAID	Use to pay out tip amounts to the servers
45	VOID	Use to Void an Item Immediately and Void Mode
46	I. VOID	Use to perform an indirect void

47	**ST VD**	Use to CANCEL or Void an Entire Transaction
48	**RFND**	Use to Refund an Amount or Item
49	**RETURN**	Use to Return an Amount or Item
50	**TAX**	Use to Enter the Tax Amount Manually
51	**COVER COUNT**	Use to Enter the Number of Customers
52	**GLU/PBLU**	Use to recall an Open Guest Look Up Order
53	**N.C. (New Check)**	Use to Open / Start a new Guest Look Up Order

Function No.	Function	Description
54	SERVICE	Service Key – used for guest look up (GLU/PBLU) orders. Does not calculate or print tax on the guest check and/or receipt. Stores the sales taxable subtotal and other data as they are in the GLU file. Also sends orders to the remote printers
55	FINAL	Final Key – used for guest look up orders. Calculates and prints the order with tax on the check and/or receipt. Also Sends Order to the remote printers
56	DEPO	Use to Deposit a Media Amount on a Guest Check
57	DEP. RF	Use to Refund the Media Deposit Amount
58	B.T. (Bill Transfer)	Use to Transfer a Bill (Guest Check) to another
59	FS TENDER KEY	Food Stamp Tender Key
60	FS TEND by EBT	Food Stamp Tender Key (electronic payment)
61	Cash Benefit by EBT	Cash benefit tender key (electronic payment)
62	FS/Cash benefit subtotal	Used to display the food stamp/cash benefit subtotal
63	SRV#	Server (Cashier) Sign On Key
64	RP SND	Use to Send an item to the RP before Service of Final
65	GRATUITY	Use to add gratuity as it's programmed, to the subtotal
66	OPN TARE	Use to Enter an Open Tare Amount
67	BALANCE KEY	Used with the customer management function to look up the customer's account balance
68	REPEAT	Use to re-register a previously ordered item
69	AMOUNT KEY	Use to input an amount when required
70	DEPT #	Use to register a dept #
71	INQ	Use to inquire a price
72	PRICE CHANGE	Use to Change price
73	CUSTOMER	Use to enter Customer Account # for the customer management feature
74	BIRTHDAY	Age Verification
75	TRANS OUT	Use to Transfer Out a Guest Check From a Server
76	TRANS IN	Use to Transfer In a Guest Check to a Server from Another Server
77	SEAT #	Use to Enter the Number of Persons on a GC Required I. Pay Buffer Created in Memory
78	I. PAY	Allow to Pay Out Individual Check Before Finalization Required Individual Pay Buffer Created in Memory
79	RF.SAL	Use for Dept and PLU/UPC entries only. Press at the beginning of the transaction to put the POS in REFUND SALES mode. Cannot finalize with a check payment.
80	RCPT ON/OFF	Use to Turn ON/OFF a Receipt Printer
81	B.S. (Bill Separate)	Use to Split a Guest Check in a Fine Dining Operation
82	WASTE	Use to Report Wasted Products
83	C NEXT	Skip the Next Condiment Table Programmed
84	NEXT $	Use to Tender the Next Dollar Cash Amount
85	EDIT TIP	Use to Edit Charge Tip Amount on a Guest Check
86	REPEAT	Use to Repeat a Previous Item Ordered
87	GLU RECALL	Recall Checks
88	UPSIZE	Up-charge key
89	GC BAL	Performs a gift card balance inquiry
90	MGR#	Used to enter a manager number
91	HOLD/RECALL	Used to temporarily store a single transaction
92	LEVEL #	Shifts Menu Levels
93-97	L1-L5	Menu Level Keys
98	PRICE SFT #	Shifts Price Levels
Function	Function	Description

No.		
99-104	P1 – P6	Price Level Keys
105	TAX1SF	Tax Shift 1
106	TAX2SF	Tax Shift 2
107	TAX3SF	Tax Shift 3
108	TAX4SF	Tax Shift 4
109	TAX5SF	Tax Shift 5
110	GD1SFT	Group Discount 1 Shift Key
111	GD2SFT	Group Discount 2 Shift Key
112	GD3SFT	Group Discount 3 Shift Key
113	GDSC %1	Group discount 1% key
114	GDSC %2	Group discount 2% key
115	GDSC %3	Group discount 3% key
116-124	%1 – %9	Use as % Mark Up or Mark Up Down Keys
125-133	(–) 1 – (–) 9	Use as Dollar Discount Keys
134-232	AUTO – AUTO 99	Programmable Auto Keys (25 Keystrokes Max)
233-236	CA2-CA5	Cash 2-5 Media Totalizer
237-245	CHK – CHK9	Check 1-5 Media Totalizer
246-254	CH1 – CH 9	Charge 1-9 Media Totalizer
255-258	CONV1 – CONV4	Currency Conversion 1-4 Keys
259	RA	Receive on Account Key
260	RA2	Receive on Account Key 2
261	PO	Paid Out Key
262	PO2	Paid Out Key 2
263-271	CA/CHK_1 – CA/CHK_9	Check cashing keys
272	EAT IN 1	Use as a Totalizer for Take Out or Dine In Orders
273	EAT IN 2	Use as a Totalizer for Take Out or Dine In Orders
274	EAT IN 3	Use as a Totalizer for Take Out or Dine In Orders
275-279	MESSAGE 1-5	Prints doubled sized characters together with items on the remote printer or chit receipt.
280	MAIL MESSAGE	Used to retrieve mail messages
281-330	PLU MENU 1-50 KEY	Pop Up Menu Selection Window (Max 50 Items Per)
331-334	Macro Function 1-4 KEY	Use to run a series of instructions with a single key stroke. 15 Max. mode position/auto key no. for each macro key
335-344	CAPTURE 1-10 KEY	Use to collect information at the POS when a specific function key is pressed.
345-374	FUNCTION MENU 1-30 KEY	Allows for presetting specific functions to a single key position.
375-402	GASOLINE SALES SBTL 1-28	Used to display gasoline department sale subtotals.

2. Key Initial

The UP-800 Keyboard layout can be recovered to MRS defaults without risk of losing previously programmed PLU items, etc by initiating the Initial Key Layout.

Procedure:

① Enter SRV-Mode
② Select [2 SETTING]
③ Select [7 KEY INITIAL]
④ At the “ARE YOU SURE?” prompt, select [1 YES] to restore the MRS1 Defaults or [NO] to cancel the request

3. PGM Mode Programming – Direct Key

Direct Key programming allows you to link a PLU, DEPT, or Combo Table to a key position for direct registration.

Procedure:

① Press [MODE]
② Select [6 PGM2 MODE]
③ Select [2 SETTING]
④ Select [2 DIRECT KEY]
⑤ Select a key location where you wish to place a direct Dept., PLU, or Combo key. Use the up/down arrows to select desired key from the menu or by pressing the key on the keyboard.
⑥ Using the decimal point key or subtotal key, select the type (PLU, Combo or Dept).
⑦ Enter the PLU code for the respective level(s), or Department code or Combo Table No. for each Menu Level

UP810F/820F – Key position numbers

↑R	↑J	25	34	43	52	61	70	79	88	97	106	115	124	133	142
9	16	24	33	42	51	60	69	78	87	96	105	114	123	132	141
7	15	23	32	41	50	59	68	77	86	95	104	113	122	131	140
8	14	22	31	40	49	58	67	76	85	94	103	112	121	130	139
5	13	21	30	39	48	57	66	75	84	93	102	111	120	129	138
4	12	20	29	38	47	56	65	74	83	92	101	110	119	128	137
3	11	19	28	37	46	55	64	73	82	91	100	109	118	127	136
2	10	18	27	36	45	54	63	72	81	90	99	108	117	126	135
1	9	17	26	35	44	53	62	71	80	89	98	107	116	125	134

UP820N- Key position numbers

↑R	↑J	16	22	28	34	40	46	52	58	64	70	76	82
5	10	15	21	27	33	39	45	51	57	63	69	75	81
4	9	14	20	26	32	38	44	50	56	62	68	74	80
3	8	13	19	25	31	37	43	49	55	61	67	73	79
2	7	12	18	24	30	36	42	48	54	60	66	72	78
1	6	11	17	23	29	35	41	47	53	59	65	71	77

Section – 3: FILE ALLOCATION

Section-1: Overview

File Allocation also known as memory file allocation and 970 programming, is used to **reserve** areas of memory for data storage.

The concept of file allocation is similar to partitioning a hard disk drive. Instead of disk space, you are working with areas of memory. File allocation allows for dividing and dedicating memory space for the files to store its data.

File allocation uses **File Groups** to reserve areas of memory for data storage. During file allocation, file groups work much like a batch file or command does in an operating system or software program. A single File Group may reserve areas of memory for a single file table or multiple dependent or related file tables.

The UP-820N and UP-810F/820F Memory:

UP-800 MRS Values	HEX
Start address	A7E82000
Used address	A7F04E82
End address	A7FFFFFF

Options:

UP-S04MB2 (4MB) – 2 chips

Start address	A7E82000
Used address	A7F04E82
End address	A83FFFFF

UP-S08MB (8MB) – 4 chips

Start address	A7E82000
Used address	A7F04E82
End address	A87FFFFF

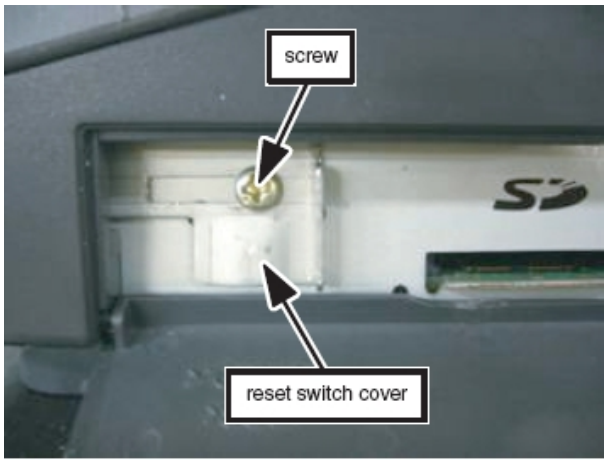
Memory Allocation program settings may be printed on the report and journal printer or displayed on the operator display.

1. Entering the SRV-Mode/Program Reset

To enter SRV Mode programming or to perform a program reset, you must toggle the Reset Switch to the on or forward position and then back to the original off position.

Procedure:

① Unscrew the plate covering the Reset Switch to gain access
② Set the Reset Switch to the “ON” or forward position
③ Set the Reset Switch to the “OFF” or original position.
④ Reattach the plate covering the Reset Switch.



2. SRV-mode Program Readings:

List of SRV-mode Program Reports:

Device Assignment		
Mode	Main Menu	Sub Menu
SRV-Mode	1 READING	4 FILE

Procedure:

① Enter the SRV-Mode as previously outlined
② Select [1 READING]
③ Select [4 FILE]
④ Choose [1 DISPLAY] to view the report on the display, or [2 REPORT PRINTER] to generate a hard-copy report.

Caution:
When adding the optional memory board (UPS04MB2), (UPS08MB), it’s necessary to execute one of the Master Reset procedures outlined in Section – 1.

Example: Master Reset-1, Master Reset-2, and Master Reset-3

Section-2: Allocating Memory Files

IMPORTANT: Memory File Allocation – Must be determined before any extensive PGM2 Mode programming is started.

1. File Group Tables:

There are Four Types of File Groups: File Type 0, File Type 1, File Type 2, and File Type 3.

- A File Group generates a file table or tables when it is created.
- A File Group **Type 0** (Child) is modified automatically when the parent file is changed. Create/Erase only.
- A File Group **Type 1** (Parent) requires a **Number of Record Entry**. Create/Erase and Increase/Decrease the number of records.
- A File Group **Type 2** requires a **Number of Blocks Entry**. Create/Erase and Increase/Decrease the number of blocks.
- A File Group **Type 3** requires an **Entry of Indexes and Records**. Create/Erase and Increase/Decrease the number of records for label and data individually.
- A File Group **Type 4** requires a **Number of Record Entry**. Create/Erase and Increase/Decrease the number of records for label and data individually.

IMPORTANT: Prior to beginning Memory Allocation, the following important guideline is to be observed. Develop the UP-800 program a Standalone terminal setting.

[FILE TABLE]

Group NO.	FILE NAME	TYPE	File table No. (Create / Erase)
1	DEPT	1	1,2,3,5,6 / 10
2	DEPT TEXT (8)	0	3
3	DEPT TEXT (16)	0	4
4	DEPT Mark Down	0	10 / 11,12,13,14
5	Dept Term	0	6,11
6	PLU/UPC	1	15,16,17,19,21,27,29, 31,33,35
7	PLU/UPC PRICE 1	0	17,27,29,31,33,35 / 28,30,32,34,36
8	PLU/UPC PRICE 1-6	0	18,37,39,41,43,45 / 38,40,42,44,46
9	PLU/UPC TEXT1 (8)	0	19
10	PLU/UPC TEXT1 (16)	0	20
11	PLU/UPC KP TEXT1 (12)	0	22
12	PLU/UPC TEXT 1-6 (8)	0	23
13	PLU/UPC TEXT 1-6 (16)	0	24
14	PLU/UPC KP TEXT 1-6 (12)	0	25
15	PLU stock	0	26
16	PLU ENH.SALES	0	29,30,31,32,33,34,35, 36,60, 61,62,63,195 / 196
17	PLU Term	0	28,30,32,34,36
18	DYNAMIC UPC	1	47,48,49,52,53,54,58, 60,62,195
19	DYNAMIC UPC PRICE 1	0	49,58,60,62,195 /59,61,63,196
20	DYNAMIC UPC PRICE 1-6	0	50,64,66,68,197 / 65,67,69,198
21	DYNAMIC UPC TEXT1 (8)	0	51
22	DYNAMIC UPC TEXT1 (16)	0	52
23	DYNAMIC UPC KP TEXT1 (12)	0	54
24	DYNAMIC UPC TEXT1-6 (8)	0	55
25	DYNAMIC UPC TEXT1-6 (16)	0	56
26	DYNAMIC UPC KP TEXT 1-6 (12)	0	57
27	Term DYNAMIC UPC	0	59, 61, 63, 196
28	UPC PGM PICK UP	1	70
29	DYNAMIC UPC PGM PICK UP	1	71
30	EAN X/Z PICK UP	1	72
31	DYNAMIC UPC X/Z PICK UP	1	194
32	Link PLU	1	73
33	Combo Meal	1	74,75,272
34	Combo Meal KP TEXT	0	76
35	Condiment table	1	80,81,154
36	Mix&Match Table	1	82,83,214
37	Mix&Match Sold Buffer	1	84,207
38	Server	1	91,92,93,94,95 / 96, 97,98,99,102
39	Server Term	0	96
40	Sign off Server (IRC)	2	105,106
41	Manager	1	107
42	GLU/PBLU (Preset + buffer)	3	132,157,158
43	Closed GLU	1	133,199
44	AUTO GLU Generate code	1	134
45	GLU/PBLU Rcv buffer (IRC)	2	124
46	GLU/PBLU file (Preset Only)	3	132,157,158
47	B.S./B.T. buffer (buffer Only)	0	122
48	Repeat round buffer	0	160,206
49	KP buffer	0	123,161
50	KP (IRC)	1	142,143
51	Message text (KP)	0	155,156
52	Term Transaction	0	87
53	All of term file	0	6,11,28,30,32,34,36,59, 61,63,87,96,196
54	Hourly	1	108,109
55	Daily net	1	113,114
56	Reg buffer	1	119,120,121,122,149, 151,159,160,202,203, 204,205 / 124,125,127,130,131, 148,154,123,161,206, 214
57	CUSTOMER	1	162,163
58	CUSTOMER (SALES)	1	164,208,209
59	T-LOG buffer	1	126
60	Journal Log buffer	1	128
61	Receipt Window buffer	1	129
62	Ind. Pay buffer	0	130,131,148,150
63	Positive No	1	166
64	Charge Positing	1	167
65	Negative No	1	169
66	Capture job	1	172,173
67	Capture job (sales)	3	174
68	RJE Command buffer	1	175,176,177,178,179, 180,181,182,183 / 184,185,186,187,188, 189,190

Group NO.	FILE NAME	TYPE	File table No. (Create / Erase)
69	RJE Scheduler buffer	0	184,185,186,187,188, 189,190
70	ONLINE PRINT buffer	1	191
71	Mail Spool file (Machine)	1	192
72	Mail Spool file (Server)	4	193
73	RECEIVE CHARGE POSTING	1	168
74	ACCT BAL offline file	1	200
75	ELECTRONIC JOURNAL	1	212 / 213

2. File Table Descriptions:

Please review some of the recommended setting notes related to Memory File Group allocation. These files must be programmed individually at each terminal.

Departments (File Group #1)

File Group #1 is the "parent" File Group in which the total number of Departments is set.

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [8 FILE]
③ Select [01 DEPARTMENT]
④ Select [01 DEPT]
⑤ Enter the desired number of departments (00 – 99)
⑥ Depress the [ENTER] key

NOTE: The department file is a fixed type allocation. This means that when you allocate a specific number of departments; the specific numbers of departments are held in memory.

Allocation Method: File Group #1: DEPT is allocated to the same size at the Standalone, Master and Satellite.

Department Text (File Groups #2, #3)

There are 2 different lengths for text characters for departments. The default allocation uses 16 characters and if memory permits, the File Group No. 3: Dept Text (16) can be deleted to allow allocation of File Group No. 2: Dept Text (8).

Procedure:

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [8 FILE]
③ Select [01 DEPARTMENT]
④ Select [03 DEPT TEXT (16)]
⑤ Toggle the record selection to “ERASE” (depress the [.] key) followed by depressing the [ENTER] key.
⑥ Select [02 DEPT TEXT (8)]
⑦ Insure the record selection is set to “CREATE” and follow this by depressing the [ENTER] key.

Allocation Method: File Group #2 or #3: DEPT TEXT (8) or (16) is allocated to the same type at the Standalone, Master and Satellite and follows the File Group #1: DEPT settings

Department Mark Down (File Group #4)

It is possible to report item coupons and discounts by each department when the File Group No. 4: DEPT MARK DOWN file has been allocated. To create this file in memory you must create the file as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [01 DEPARTMENT]
④ Select [04 DEPT MARK DOWN]
⑤ Toggle the record selection to "CREATE" (depress the [.] key) followed by depressing the [ENTER] key.

Allocation Method: File Group #5: DEPT MARK DOWN is allocated the same at the Standalone, Master and Satellite and follows the File Group #1: DEPT settings

PLU/UPC Items (File Groups #6, #7, #8, #9 #10, #11, #12, #13, #14, #15, #16, #17)

In the UP800, the PLU and UPC file group is shared. The system identifies a PLU as an article item with 5 or less digits and an UPC as an article item with 6 – 13 digits. **In File Allocation, PLU refers to both PLUs and UPCs.**

File Group #6 is the "parent" File Group in which the total number of PLU/UPC items is set.

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [02 ITEMS]
④ Select [06 PLU/UPC]
⑤ Enter the desired number of PLU records (00000 – 99999)
⑥ Depress the [ENTER] key

NOTE: The **PLU/UPC file** is a dynamic type allocation. In summary this means that when you allocate a specific number of PLU/UPC items; only the number of PLU items assigned to a department is held in memory. The total number of PLU/UPC records is dependent on the available memory.

Allocation Method: File Group #6: PLU/UPC is allocated to the same size at the Standalone, Master and Satellite.

PLU/UPC Price Shifts (File Groups #7, #8)

The UP-800 PLU/UPC file may have one of two types of Price Shifts:

File Group No. 7: PLU/UPC PRICE 1 or **File Group No. 8: PLU/UPC PRICE 1 – 6.**

The MRS allocation uses 1 Price Shift. If multiple price shifts are required, you may delete File Group 7 -Price Shift 1 and create File Group 8 - Price Shift 1-6. **NOTE:** Price shift 1-6 will accumulate more memory.

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [02 ITEMS]
④ Select [07 PLU/UPC PRICE 1]
⑤ Toggle the record selection to "ERASE" (depress the [.] key) followed by depressing the [ENTER] key.
⑥ Select [8 PLU PRICE 1-6]
⑦ Insure the record selection is set to "CREATE" and follow this by depressing the [ENTER] key.

Allocation Method: File Group #7 or #8: PLU/UPC PRICE 1 or (1 to 6) is allocated based on the number of PLU/UPC records in File Group #6 and must be the same type at the Standalone, Master and Satellite.

PLU Text (File Groups #9, #10, #12, #13)

The MRS allocation uses 16 characters for PLU/UPC Text 1. There are two choices for the length of the PLU/UPC descriptor based for Price 1 or Price (1-6).

File Group Number	Description	Comments
9	PLU/UPC Text 1 (8)	1 Descriptor – 8 Characters
10	PLU/UPC Text 1 (16) - DEFAULT	1 Descriptor – 16 Character
12	PLU/UPC Text 1-6 (8)	6 Descriptors – 8 Characters
13	PLU/UPC Text 1-6 (16)	6 Descriptors – 16 Characters

If a different PLU Text is required, you may delete File Group 9 and create File Group 10, 12 or 13.

NOTE: PLU /UPC Text 1-6 (12 or 13) will accumulate more memory.

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [02 ITEMS]
④ Select [10 PLU TEXT 1 (16)]

⑤ Toggle the record selection to “ERASE” (depress the [.] key) followed by depressing the [ENTER] key.
⑥ Select [09 PLU PRICE 1-6 (8)]
⑦ Insure the record selection is set to “CREATE” and follow this by depressing the [ENTER] key.

Allocation Method: File Group #9, #10, #12 or #13: PLU TEXT (8) or (16) must be consistent with the PLU/UPC Price(s). The number of records allocated is based on File Group #5 and must be allocated to the same type at the Standalone, Master and Satellite.

*E.g. If you choose the MRS setting of File Group #7 (PLU/UPC **Price 1**), you must select PLU/UPC Text Files Groups 9 (PLU/UPC **Text1** (8)) or 10 PLU/UPC **Text1** (16) - MRS.*

PLU KP Text (File Groups #11, #14)

If you wish to use a description other than the PLU text descriptor to print on the remote printers, the PLU KP text file may be used.

The UP-800 PLU file may have one of two types of PLU KP Text – **File Group No. 11: PLU KP Text 1 (12)** or **File Group No. 14: PLU KP Text 1 – 6 (12).** The File Group used must be consistent with the PLU Price and Text used. Price 1 use Text 1 or Price 1-6 use Text 1-6

NOTE: PLU KP Text 1-6 will accumulate more memory.

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [02 ITEMS]
④ Select [14 KP TEXT 1 – 6]
⑤ Toggle the record selection to “ERASE” (depress the [.] key) followed by depressing the [ENTER] key.

Allocation Method: File Group #11, #14: KP-TEXT1 or KP-TEXT 1-6. The number of records allocated is based on File Group #5 and must be allocated to the same type at the Standalone, Master and Satellite.

PLU/UPC Stock (File Group #15)

It is possible to report PLU/UPC stock levels by each PLU when File Group No. 15: PLU STOCK has been allocated. The file is allocated based on the number of records allocated in File Group No. 5: PLU/UPC. To create this file in memory you must create the PLU STOCK file as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [02 ITEMS]
④ Select [15 PLU STOCK]
⑤ Insure the record selection is set to "CREATE" and follow this by depressing the [ENTER] key.

Allocation Method: File Group #14: PLU STOCK must be allocated at the Standalone, Master and Satellite.

Please consider the general rules listed below when using this feature:

- For the In-Line Configuration, stock keeping is updated by batch processes and not kept in real-time.

Dynamic UPC (File Group #18)

File Group #15 is the "parent" File Group in which the total number of DYN.UPC records is set. Dynamic UPC (also known as the UPC Learning Function) allows you to register a UPC that has not been programmed in the PLU/UPC file. The UPC is added to the Dynamic UPC file memory space, for temporary storage or for a later upload to the PLU/UPC file. This can assist with the register traffic flow and prevent unwanted and inaccurate items from being added to the PLU/UPC file.

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [02 ITEMS]
④ Select [18 DYN.UPC]
⑤ Enter the desired number of PLU items (00000 – 99999)
⑥ Depress the [ENTER] key

Dynamic UPC Price Shifts (File Groups #19, #20)

The UP-800 UPC file may have one of two types of Dynamic UPC Price Shifts – **File Group No. 19: Dynamic PRICE 1** or **File Group No. 20: Dynamic PRICE 1 – 6**. The default allocation uses Dynamic Price 1. If multiple price shifts are required, you may delete File Group #19 - Dynamic Price 1 and create File Group # 20 Dynamic Price 1-6.

NOTE: Dynamic UPC Price shift 1-6 will accumulate more memory.

Procedure:

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [08 FILE]
③ Select [02 ITEMS]
④ Select [19 DYN. UPC PRICE1]
⑤ Toggle the record selection to “ERASE” (depress the [.] key) followed by depressing the [ENTER] key.
⑥ Select [20 DYN. UPC PRICE 1-6]
⑦ Insure the record selection is set to “CREATE” and follow this by depressing the [ENTER] key.

Allocation Method: File Group #19 or #20: DYNAMIC UPC PRICE 1 or (1 to 6) is allocated based on the number of DYN UPC items in File Group #18 and must be the same type at the Standalone, Master and Satellite.

Dynamic UPC Text (File Groups #18, #19, #21, #22)

The default allocation uses 16 characters for DYNAMIC UPC PRICE 1. If multiple Price shifts required If memory permits, then delete the File Group No. 21: DYNAMIC UPC TEXT1 (8) to allow allocation of File Group No. 24: DYNAMIC UPC TEXT1 – 6 (8).

Dynamic UPC KP Text (File Groups #20, #23)

To use a description other than the DYN.UPC Text descriptor to print on a remote printer, the Dynamic UPC KP Text file may be used.

Link PLU (File Group #32)

The link type PLU is used when more than one and up to five items are rung with one key depression. Each unit price is accumulative for those PLU items associated to the link type operation and are printed with the individual unit prices. (e.g. special menu items or messages). To change or delete this file, enter "0" to delete or "01 – 99" as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [03 TABLES]
④ Select [32 LINK PLU]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the number of Link PLU records and follow this by depressing the [ENTER] key.

Allocation Method: File Group #32: LINK PLU tables must be allocated to the same size at the Standalone, Master and Satellite

Combo Meals (File Group #33)

The Combo Meal Table file allocation allows for combining menu items, which exist in the PLU item file and "bundle" them together with a different unit price. The maximum number of PLU items that may be combined in a single table is "9".

When the Combo Meal key is selected, the adjusted prices are added together and the Combo Meal is entered at a single price based on the calculation. To change or delete this file, enter "0" to delete or "01 – 20" as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [03 TABLES]
④ Select [33 COMBO MEAL]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the number of Combo Meal Tables and follow this by depressing the [ENTER] key.

Allocation Method: File Group #33: Combo Meal tables must be allocated to the same size at the Standalone, Master and Satellite.

Condiment Tables (File Group #35)

The Condiment Table file allocation allows for assignment of prep instructions to a previously entered PLU or Combo Meal item. The condiment allows for the preset of a "Repeat Counter" as well as assignment to a "Next" table no. when it is necessary to enter more than one instruction for preparing the food.

When a PLU or Combo Meal key is selected, the assigned Condiment Table appears on the touch screen. To change or delete this file, enter "0" to delete or "01 – 99" as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [08 FILE]
③ Select [03 TABLES]
④ Select [35 CONDIMENT TABLE]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the number of Condiment Tables and follow this by depressing the [ENTER] key.

Allocation Method: File Group #35: Condiment tables must be allocated to the same size at the Standalone, Master and Satellite.

Please consider the general rules listed below when using this feature:

- A maximum of (28) PLU items can be set within any one-condiment table.
- Repeat times (1 – 9) the number of times the table will appear on the touch screen.
- Next table# is used to designate the next condiment table to display on screen (table linking).

Servers (File Group #38)

The Server File is mandatory for operating the UP-800 system. In order to make sales entries a Server must be signed on to the POS terminal. The server file is a fixed-type allocation and when reports are issued, all servers are printed. To change this file in memory you must modify the Server file as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [08 FILE]
③ Select [04 PERSONNEL]
④ Select [38 SERVER]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the number of Server records and follow this by depressing the [ENTER] key.

Allocation Method: File Group #38: SERVER is to be allocated at the Standalone, Master and Backup Master.

Listed below are some things to consider when using this function:

- The maximum number of Servers is 255
- It is mandatory to have Servers allocated. **Do not delete this file**
- For the Inline configuration, the Server system is centralized at the Master
- When a terminal is a Satellite, do not modify this file – the system will modify/set this file allocation upon the IRC SETTING
- Secret coded Servers are a preset 4-digit code in PGM mode
- When a Back-Up Master is part of the In-Line configuration, then it is necessary to allocate the Server related File Groups to the same number of records as the Master.
- Only one Server may be signed on at any terminal at a time
- The UP-800 employs two types of Server systems;
    - 1st: A*uto sign on/off system*
      (Servers are automatically signed off when the transaction is finalized)
    - 2nd: *Stay-down system*
      (Servers can be signed and remain signed on until physically signed off)

Sign Off Server (File Group #40)

A Master in the Inline system configuration uses the Sign-Off Server File. The usage of the file is to monitor, which Server is signed on at a particular terminal (In-Use Flag). This file does not have to be allocated and is automatically allocated during the SRV Job for IRC SETTING.

Allocation Method: File Group #40: SIGN OFF SERVER is only allocated at the Master and the Backup Master.

Caution: This allocation is used in some error recovery procedures after a system is installed and a Server number becomes unavailable due to a malfunction at a Satellite. Avoid allocating this file unless instructed to.

Customer (File Group #57)

File Group No. 57: CUSTOMER is the file group that is used to allocate the necessary file for the dedicated collection of summary or detailed sales data by a Customers code. This file is allocated at the master.

Procedure:

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [08 FILE]
③ Select [06 OTHERS]
④ Select [57 CUSTOMER]
⑤ Enter “0” to delete (followed by “YES” at the prompt) or enter the number of Customer records and follow this by depressing the [ENTER] key.

Allocation Method: File Group #57: CUSTOMER is to be allocated at the Standalone, Master and Backup Master.

Customer Sales (File Group #58)

File Group No. 58: CUSTOMER SALES is the file allocated when the sales entries of customers are to be tracked and reported. The detail or summary information of an customer sale is tracked and may be and can be calculated as follows:

Examples:	Detailed	Summary
No. Terminals	5	5
No. Total Customers (System-wide) + 1	101	101
Avg. No. Items per Check	32	7
REG BUFFER setting	150	150
Calculation	(101 x 32) + (5 x 150)	(101 x 7) + (5 x 150)
No. Records Required	3232 + 750	700 + 750
Allocation Entry:	Index = 101	Index = 101
	Records = 3982	Records = 1450

To change this file in memory you must modify the CUSTOMER as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [06 OTHERS]
④ Select [58 CUSTOMER]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the Index (no. Customers) and the Records (calculation) and follow each by depressing the [ENTER] key.

Allocation Method: File Group #58: CUSTOMER SALE is to be allocated at the Master and Backup Master.

Hourly (File Group #54)

File Group No. 54: HOURLY is the file allocated when the restaurant owner wishes to summarize "Net Sales" by specific ranges of time. This report is updated after individual sales transactions are executed and stored by a pre-defined time interval. The allocation is (no. Days +1). To change this file in memory you must modify the HOURLY as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [06 OTHERS]
④ Select [54 HOURLY]

⑤ Enter “0” to delete (followed by “YES” at the prompt) or enter the number of (days +1) required to store totals and follow this by depressing the [ENTER] key.

Allocation Method: File Group #54: HOURLY is allocated the same at the Standalone, Master and Satellite.

Listed below are some things to consider when using this function:

- The allocation must match the type PGM2 setting for the Hourly Time Interval: 15 min. (96), 30 min. (48) or 1 hour (24)
- The recommended setting is to leave the default settings which covers all requirements

Daily Net (File Group #55)

File Group No. 55: DAILY NET is the file allocated when the restaurant owner wishes to summarize “Net Sales” by calendar dates. This report is updated after individual Transaction Z1 Reports are executed. The allocation is (no. days +1). To change this file in memory you must modify the DAILY NET as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [06 OTHERS]
④ Select [55 DAILY NET]
⑤ Enter “0” to delete (followed by “YES” at the prompt) or enter the number of (days +1) required to store totals and follow this by depressing the [ENTER] key.

Allocation Method: File Group #55: DAILY NET is to be allocated the same at the Standalone, Master and Satellite

Listed below are some things to consider when using this function:

- The recommended setting for File Group #35: DAILY NET is 31 (31 days + 1)

GLU/PBLU (ALL) (File Group #42)

File Group No. 42: GLU/PBLU (ALL) is the file allocated when the GLU/PBLU Guest Check Lookup/Previous Balance Lookup function is required. A Guest Check sale is tracked in detail (GLU) or summary (PBLU) and can be calculated as follows:

Method	Memory	Calculation
Detailed (GLU)	Index	No. Total Open Checks at a time
	Record	(Avg. no. Items per check) x (no. Open Checks) + (No. Terminals x REG BUFFER size)
Summary (PBLU)	Index	No. Total Open Checks at a time
	Record	(7) x (no. Open Checks) + (No. Terminals x REG BUFFER size)

To change this file in memory you must modify the GLU/PBLU (ALL) as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [05 GLU]
④ Select [42 GLU/PBLU (ALL)]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the Index (no. Checks) and the Records (calculation) and follow each by depressing the [ENTER] key.

Allocation Method: *File Group #42: GLU/PBLU (ALL) is to be allocated at the Standalone, Master, Satellite and Backup Master.*

Listed below is an example how to calculate the Index and Record setting for this function:

Examples:	Detailed	Summary
No. Terminals	5	5
No. Total Checks (System-wide) + 1	101	101
Avg. No. Items per Check	32	7
REG BUFFER setting	250	250
Calculation	(101 x 32) + (5 x 250)	(101 x 7) + (5 x 250)
No. Records Required	3232 + 1250	707 + 1250
Allocation Entry:	Index = 101	Index = 101
	Records = 4482	Records = 1957

Please consider the general rules listed below when using this feature:

- Used when it is necessary to clear the Open GLU/PBLU preset area (File Group #42)
- The Open GLU/PBLU file area should be erased using this File Group when:
  - SRV job # 919-A is changed from a GLU type system to a PBLU type system and vise-versa and preserves the GLU related buffers

Closed GLU (File Group #43)

File Group No. 43: CLOSED GLU is the file allocated in conjunction with the GLU (Guest Look Up) function and is used to track the GLU (Guest Checks), which have been closed by a Media function for payment. This file is also used for the EDIT TIP function. The Closed GLU is tracked in summary and can be calculated as follows:

Method	Memory	Calculation
Summary	Index	No. Total Checks closed for a reporting period (e.g. 1 day)
	Record	(2) x (No. Checks closed)

To create this file in memory you must allocate the CLOSED GLU file as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [05 GLU]
④ Select [43 CLOSED GLU]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the Records (no. Guest Checks x 2) and follow each by depressing the [ENTER] key.

Allocation Method: File Group #43: CLOSED GLU is to be allocated at the Standalone, Master and Backup Master.

Listed below is an example how to calculate the Record setting for this function:

Examples:	Summary
No. Closed Guest Checks (for 1 day)	300
No. Records per Check	2
Calculation	300 x 2
Allocation Entry:	Records = 600

Listed below are some things to consider when using this function:

- For the centralized Inline configuration, the Closed GLU file allocation is at the Master
- When a terminal is a Satellite, do not modify this file – the system will modify/set this file allocation upon the IRC SETTING

Auto GLU Generate (File Groups #44)

File Groups No. 44: AUTO GLU GENERATE. This is the file that is allocated when it is desired to generate the GLU (Guest Check) numbers automatically. The allocation for these files can be calculated as follows:

No.	File Group	Calculation
44	Auto GLU Generate	Index from File Group #42: GLU/PBLU (ALL) + 1

To create these files in memory you must allocate them as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [05 GLU]
④ Select [44 AUTO GLU GENERATE]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the Records and follow each by depressing the [ENTER] key.

Allocation Method: File Group #44: AUTO GLU GENERATE is allocated at the Standalone, Master, Satellite and Backup Master.

Listed below are some things to consider when using this function:
- The GLU number range is preset in PGM2 (e.g. 1 – 100)
- The number generated will be the lowest available number within the range

KP Buffer and KP(IRC) (File Groups #49 and #50)

File Groups No. 49: KP BUFFER and File Group No. 50: KP(IRC) work together to provide a maximum of (9) Kitchen printers with a buffer allocated to provide Inline system printer routing between terminals. To change this file in memory you must modify the KP as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [06 OTHER]
④ Select [49 KP BUFFER]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the number of KP (kitchen printers) and follow this by depressing the [ENTER] key.

Allocation Method: File Group #49 and #50: KP and KP BUFFER are to be allocated the same at the Standalone, Master and Satellite.

Listed below are some things to consider when using this function:

- The recommended setting for File Group #50: KP (IRC) is 9
- File Group #56: REG BUFFER controls File Group #49: KP BUFFER

T-Log Buffer (File Group #59)

File Group No. 59: T-LOG BUFFER is the file allocated in certain configurations where a Back Office application collects the T-Log data for processing. The T-Log (Transaction Log) data collects and stores sales entry data made in the REG and MGR modes. To modify this file in memory you must allocate the T-LOG BUFFER file as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [06 OTHER]
④ Select [59 T-LOG BUFFER]
⑤ Enter "0" to delete (followed by "YES" at the prompt) or enter the Records and follow by depressing the [ENTER] key.

Allocation Method: File Group #45: T-LOG BUFFER is allocated at the Standalone, Master and Satellite and is controlled by SRV Job#923-C.

Listed below is an example how to calculate the Record setting for this function:

Examples:	Calculation
Satellite	(Avg. No. Items) x (No. Transactions)
Master	(Avg. No. Items) x (Total No. Transactions)

Listed below are some things to consider when using this function:

- For the Inline configuration, the T-LOG BUFFER file allocation is used
- The actual setting for the T-Log When a terminal is a Satellite, do not modify this file – the system will upon the IRC SETTING

Individual Pay Buffer (File Group #62)

The Individual Pay Buffer is not included from MRS defaults. File Group No. 62: IND. PAY BUFFER is allocated when the Bill is separated and individual payment is desired. To create this file in memory you must create the IND.PAY BUFFER file as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [06 OTHER]
④ Select [62 IND. PAY BUFFER]
⑤ Insure the record selection is set to "CREATE" and follow this by depressing the [ENTER] key.

Allocation Method: File Group #62: IND.PAY BUFFER will automatically be set to the File Group #56: REG BUFFER and must be allocated to the same level at the Standalone, Master and Satellite.

Buffers (File Groups #56, #45, #60, #61, #62, #47)

The UP-800 system utilizes numerous buffers to manage the system's functions and calculations. The following System Buffers are available for modification and are outlined below:

System Buffer Descriptions		
No.	File Group	System Usage
56	Register Buffer	The edited registration buffer is used for consolidating like items, receipt printing, calculations and updating totalizers
45	GLU/PBLU Receive Buffer	Used at the Master during Inline communications as a temporary buffer for centrally controlling GLU entries and updating
60	J-Log Buffer	Used for journal printing and acts as the buffer for the printer re-routing function in an Inline configuration
61	Receipt Window Buffer	Is the display control for the Receipt Window on the screen while in REG-mode
62	Individual Payment Buffer	The temporary buffer for the Register Buffer during the Individual Guest Check Payment operation
47	B.T. Buffer	The temporary buffer for the Register Buffer during the Individual Guest Check Bill Totalizing and Transfer operation

NOTE:

The maximum file settings for Systems Buffers are indicated below:

- File Table #138 (Register Buffer): Set according to the number of items in a transaction
  (MRS Default = 250 – this is recommended unless otherwise informed)
- File Table #120 (Edited Register Buffer): Refers to File Table #120 automatically
- File Table #121 (GLU/PBLU Buffer): Refers to File Table #120 automatically
- File Table #122 (B.T. Buffer): Refers to File Table #120 automatically
- File Table #123 (KP Buffer): Refers to File Table #120 automatically
- File Table #124 (GLU/PBLU Rcv. Buffer): Refers to File Table #120 automatically
- File Table #125 (GLU/PBLU Save Buffer): Refers to File Table #120 automatically
- File Table #126 (J-Log Buffer): 100 Records
- File Table #127 (Receipt Window Buffer): 30 Records
- File Table #130 (Individual Pay Edit Buffer): Refers to File Table #120 automatically
- File Table #131 (Individual Pay Buffer): Refers to File Table #120 automatically

Term File Groups (File Groups #5, #17, #39, #52)

Term files are allocated to provide "period-to-date" totalizers for Departments, PLU, transaction and Server sales. For simplified term file allocation, File Group No. 53: ALL OF TERM FILE is provided to globally create or erase all of the term files at one execution. To create these files in memory you must create the ALL OF TERM FILE as follows:

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [06 OTHER]
④ Select [53 ALL OF TERM FILE]
⑤ Insure the record selection is set to "CREATE" and follow this by depressing the [ENTER] key.

Allocation Method: File Group #53: ALL OF TERM FILE will automatically create File Groups #5, #17, #39, and #52, and must be allocated to the same level at the Standalone, Master and Satellite

Please consider the general rules listed below when using this feature:

- PLU TERM file allocation is not available at Master Reset and can be allocated if period-to-date totals are required for PLU item sales.

Section-3: More on Memory Allocation

IMPORTANT: Memory File Allocation – Must be determined before any extensive PGM2 Mode Programming is started.

1. Overview:

In order to store programming and sales data, not only must space in memory be available, but also the logic circuitry must know exactly where in memory it resides in order to retrieve it on demand. If an additional number of functions (such as increasing the number of PLU items from default, or the "out of box" number) were to be made available, additional RAM has to be added to the register to hold this information. Until a few years ago, RAM additions to the register were mounted in specific RAM slots, depending upon the function that was to be expanded. For example, if PLU items were to be expanded, the chip had to be mounted in the RAM slot that was used for PLU items.

The limitation of additional memory chips to specific functions is a disadvantage because the unused portion of the chip could not be used for anything else. If another function, such as "Previous Balance Files", was to be expanded, a "PB" chip had to be installed even though there may have been sufficient unused memory on the "PLU" chip.

To solve this problem, the method of memory access in the register was changed so that if an optional RAM chip was installed, the memory in that chip could be used for any purpose. Instead of designating the whole chip to a function, separate portions of the memory area of the chip are set aside for any of the functions that can be expanded, utilizing the chip's storage capabilities.

Memory in this type of register is seen by the logic as one continuous block of addresses. Additional memory added to the register takes up where the last address of the previous chip left off resulting in a larger block.

Before any portion of the memory can be utilized for storage of a specific function, the logic must know how large a block of the memory area needs to be set aside, or "allocated" for that function.

Memory is allocated for each function by programming. This programming references the File Allocation Table (FAT) which provides the following information:

- A list of the files that are in the register (FDS records)
- Each file's maximum and minimum expansion limits
- The default size of each file
- The amount of RAM memory (in bytes) required for each function
- Each file's reference number (Table or Group #) used for programming

2. Glossary or Terms:

The following terminology is used when discussing the Memory File Allocation Table:

Table #: This is a reference number for the file and is used in the actual File Allocation Programming

File Name: Indicates the purpose of the particular file.

File #: Is used to indicate individual files (by giving them a unique file number) the POS terminal's application can prevent conflicts in memory allocation by preventing selected files from being opened at the same time. For example, you cannot have memory allocated for both 8 character departments and 16 character departments at the same time.

 # Records: This area refers to the amount, or number, of each function that memory can be allocated for. The actual meaning of each record depends upon the file. For example, with PLU or Department Files, each PLU, or Department requires one record; with table files such as PLU Link or Condiment, each record equals one line of the table.

" # Records" is usually divided into two columns on the file table – MRS DEFAULT and MAXIMUM. When asterisks denote the Maximum number of records for the file, it is limited only by the available memory in the machine.

 # Blocks: The "Blocks" referred to are actually individual memory areas set aside for transaction data for each *Server*. Each block of memory has a fixed number of records in it. Each record corresponds to a particular piece of data that would be printed in the *Server* Report. Block counts other than "1" are seldom recommended.

Label Size: This denotes the number of bytes in the header area of each memory file. The number of bytes in the label *MUST* be added to the number of bytes in the record length to get an accurate number of bytes each record requires.

Record Length: Shows the number of bytes required for the data in each record within a specific file.

Memory Size: Shows the total number of bytes required for the file at default. In some File Allocation Tables the total number of bytes is also shown for the file if it is opened to the maximum number of records.

3. File Types:

There are four types of files that can be listed in the File Allocation, depending upon the register model:

Primary Files: These include functions such as Departments, PLU and Servers. The register usually references the size of these files when the other types of files are opened by the register's logic. Operational buffers, such as the "Register Buffer", are also considered to be Primary Files.

Primary Files also include those files opened for report data storage such as Term, Gross Margin, Daily Net, Hourly, and Transaction. Without these files being opened, these reports cannot be run.

Save Files (IRC – Master and Satellite): These are memory areas that hold transaction sales data to be retrieved by the Master in registers in an Inter-Register Communications (IRC) System when a Consolidation Report is performed. If SAVE Files are used, they must be present in all the registers in the IRC System. SAVE Files cannot be entered through normal (FILE Allocation) programming, if they have been programmed as "enabled" in Service Job Code 924 programming, the file memory will automatically be created when the IRC SETTING is executed. These files are always opened to the same size as the corresponding Primary File. If the number of records in the Primary File is changed, the number of records in the SAVE Files will automatically change to the same size.

Receive Files (IRC – Master/Backup Master Only): These files are automatically opened in the "Master register" in an IRC System when the IRC SETTING job is executed. They provide a buffer area for transaction sales data retrieved from the Satellite(s) when a Consolidation Report is performed. The size (number of records) of the Receive Files is always opened to the same size as the corresponding Primary File in the Master. To insure there will be room for all the data from the Satellite(s), the Satellite's memory allocation MUST match the Master's Primary Files.

Consolidation Files (IRC – Master/Backup Master Only): Data received by the Master from the Satellite(s) in its Receive Files is totaled in the Master's Consolidation Files to provide store-wide reports. As with the other IRC Files, these files are opened when the IRC SETTING job is executed at the Master/Backup Master (based on SRV Job#920-B) to the same size as the corresponding Primary Files.

4. Calculating Memory Usage

Calculating the memory needed for specific applications is very important. This information is needed to know what RAM options are required. On the other hand, given a set amount of RAM, it enables you to determine the maximum number of functions (such as PLU items and Guest Check) that can be implemented.

The general formula for calculating the memory required for any particular file requires is:

TN = NR (x) NB (x) RL

Where:

TN = Total Number of bytes.
NR = Number of Records
NB = Number of Blocks
RL = Record Length

If the file that is being calculated is opened at default, you should subtract the number of bytes the file uses at default from the value derived by the formula shown above. The result will be the amount of ADDITIONAL RAM required, or if the file size is being decreased, the amount of RAM freed.

Remember that the Label Size *must* be added to the Record Length in order to get the actual number of bytes required for each record.

When calculating memory, it's also important to remember that if the number of records (or blocks) of a Primary file is changed, the files that follow the primary's size will also be changed. This is especially important in IRC. For example, if the number of PLU items is changed in an IRC Master using SAVE files, the SAVE PLU, Receive PLU, and Consolidation PLU Files will be automatically changed by the same amount.

Section – 4: PERIPHERALS

Section-1: Overview

This section has been developed to assist in the implementation of peripheral devices that require connection to an RS232 port and are not part of the Inline system or communicate to external host devices.

The following devices are considered peripheral devices:

Peripheral Devices		
No.	Device	Abbreviation
2	Journal Printer	
3	External Journal	
4	Receipt Printer	
5	Bill Printer	
6	Report Printer	
7	Validation Printer	07 VALIDATION(VP)
8-16	Kitchen Printers	08 KP#1- 16 KP#9
17	Electronic Funds Transfer	17 EFT – covered in another section
18	Pin Pad	
19	Scanner	19 BCR(Scanner)
20	Drink Dispenser	20 BERG(BAR)
21	Scale	21 SCALE
22	Coin Dispenser	22 COIN DISPENSER
23	Online	23 ONLINE - covered in another section
24	Color Video Monitor	24 CVM DATA I/F
25	Prepaid Card	
26	Online Account Balance	26 ONL ACCT BAL
27	Integrated Circuit Card (Smart Card)	27 IC CARD
28	Pole Display	

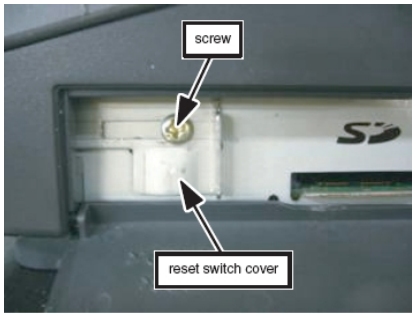
Device configuration programming consists of SRV and PGM2 – mode-programming jobs, which define the peripheral devices that make up the UP-800 system.

1. Entering SRV-Mode/Program Reset

To enter SRV Mode programming or to perform a program reset, you must toggle the Reset Switch to the on or forward position and then back to the original off position.

Procedure:

① Unscrew the plate covering the Reset Switch to gain access
② Set the Reset Switch to the "ON" or forward position
③ Set the Reset Switch to the "OFF" or original position.
④ Reattach the plate covering the Reset Switch.



The SRV-mode Main Menu will appear:

2. SRV-mode Program Readings:

List of SRV-mode Program Reports:

Device Config		
Mode	Main Menu	Sub Menu
SRV-Mode	1 READING	2 DEVICE CONFIG

Procedure:

(1) Enter the SRV-Mode as previously outlined
(2) Select [1 READING]
(3) Select [2 DEVICE CONFG]
(4) Choose [1 DISPLAY] to view the report on the display, or [2 REPORT PRINTER] to generate a hard-copy report.

Caution:
When adding peripheral devices, it is critical not to assign more than 1-type device to the same channel no. Please verify that multiple type devices are not assigned to the same channel no.

Example:
- Printers **"CAN"** share the same Channel No. Assignment
- Printers and a Scale **"CANNOT"** share the same Channel No. Assignment

Section-2: Peripheral Device Overview

Prior to programming, it is important to insure that the hardware connections necessary for each device are completed. As a basic rule, the following steps may be used for each peripheral device:

1. Connecting the UP800:

Procedure:

Connect the specified RS232 cable to the desired Channel to be assigned and install a ferrite core (part no. RCORF6699BHZZ) within 50 cm of the connector on the connection cable to reduce interference.

2. Cabling Specifications:

As a general rule, each peripheral device's manufacturer should provide their recommended specifications for cabling to the peripheral device. The below guideline for cabling should be observed when connecting a serial device to the UP800 terminal:

Cabling Specifications:

RS232 Serial Cable	
Maximum Distance from POS to Printer	50 ft. or less
Type Cable	Twisted Pair
Wire Gauge	24 AWG / Shielded
Belden Number	9540

* The true maximum distance will be determined by the quality of the cable

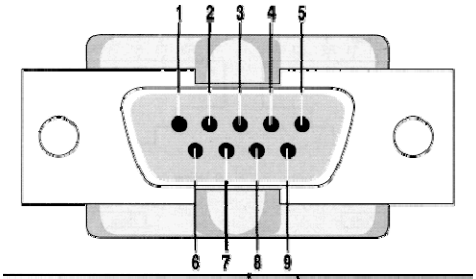
CH1 and CH2 utilizes a standard PC-type COM Port - EIA-574 RS-232 pin out on a DB-9 pin used for Asynchronous Data for RS232.

(1) CH1, CH2

Connector type: D-SUB 9pin

1	/CD
2	RD
3	SD
4	/ER
5	GND
6	/DR
7	/RS
8	/CS
9	

VCC(+5V) /CI



Pin	Signal	Pin	Signal
1	Data Carrier Defect	6	Data Set Ready
2	Received Data	7	Request to Send
3	Transmitted Data	8	Clear to Send
4	Data Terminal Ready	9	Ring Indicator
5	Signal Ground		

CH3 and CH4 utilizes a Modular Jack RJ45 8 pin type COM Port for RS232.

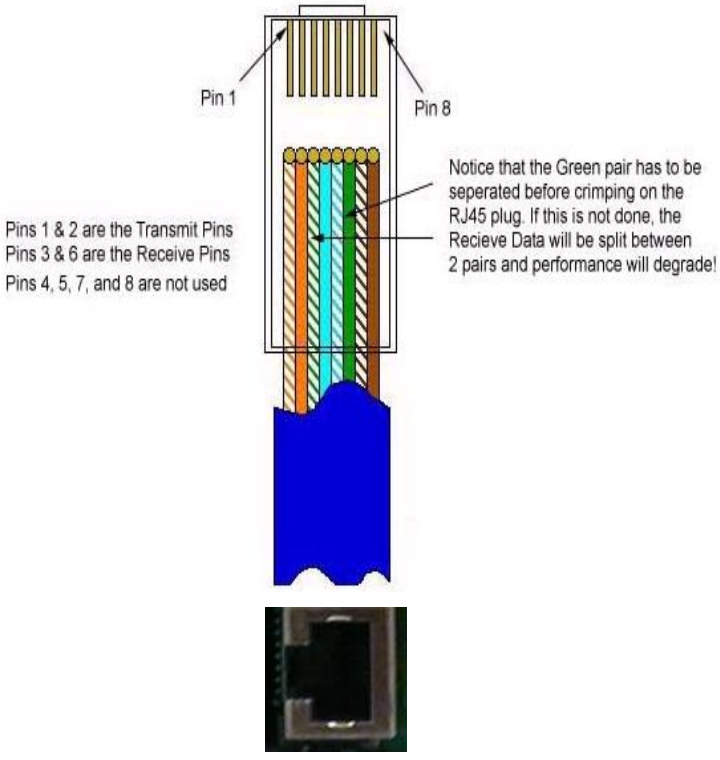
(2) CH3, CH4

Connector type: Modular jack RJ45 8pin
Data rate: max. 115,200 bps

1	/RS
2	/ER
3	SD
4	
5	GND
6	RD
7	/DR
8	/CS

CD CI

GND VCC (+5V)

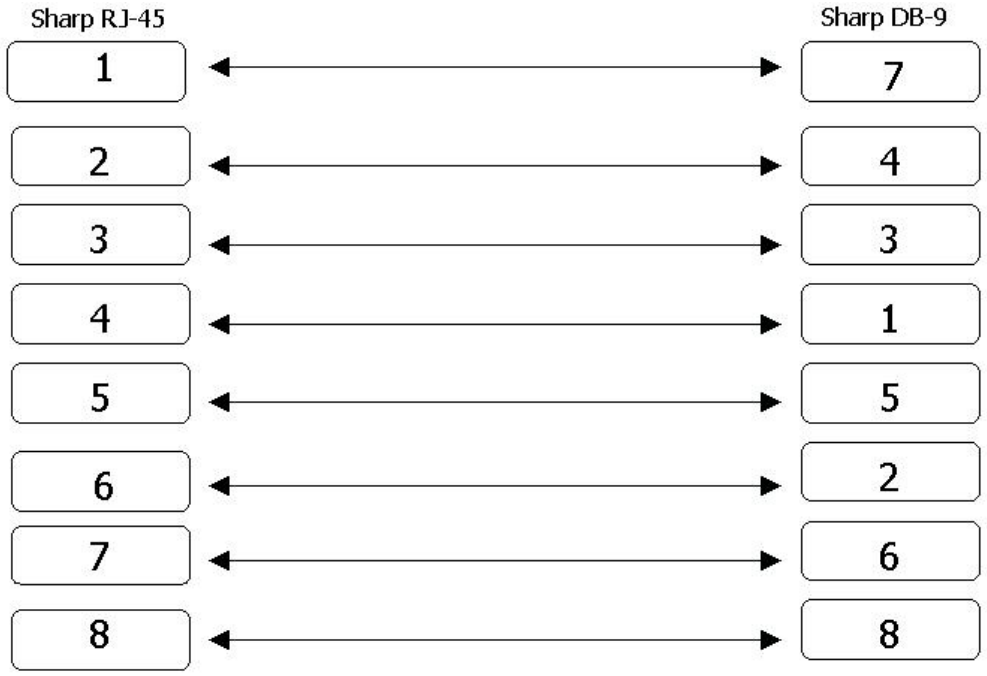


3. Conversion Cable

With the exception of printers, to attach devices to CH3 or CH4 a DB9 to RJ45 Conversion Cable is required. See the appropriate peripheral for other cable requirements.

Modular Conversion Cable for CH2

Datacomm Part# DCN100226-3E (800) 544-4627



Section-3: Printers

A variety of printers may be configured with the UP800 system. As a basic rule, the following steps may be used for each peripheral device:

1. BUILT-IN/RECEIPT Printer setup

Procedure

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [01 BUILT-IN PRINTER]
④ Choose the desired parameters:
- **Light & Shade**
- **Image Footer** ← ***to view the choices printers depress the [DECIMAL or SBTL] key***

⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑥ Select [04 RECEIPT PRINTER]
⑦ Choose the desired parameters:
- **Auto Cutter** ← ***to view the choices printers depress the [DECIMAL or SBTL] key***
- **Tray ST Feed#**
- Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑧ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE: When "ALL" devices are assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method: The CHANNEL NO. Assignment is required at the machine where the printer is physically connected. For the Inline configuration – the TERMINAL and CHANNEL of the machine where the printer is physically located is required.

Please consider the general rules listed below when using this feature:

- A printing device can not be assigned to a Channel where a non-printing device is already assigned (ex: SCALE).

Related Programming Jobs: Journal Printer

SRV Mode

SRV Menu / Job#		Description
Setting – System Preset	908-D	Printing of X/Z Report

PGM2 Mode

PGM Menu	Selection	Description	Options
2. Setting	10. Optional	4. Print Select	Journal Select
			Journal Size Tax Status

Related Programming Jobs: Receipt Printer

SRV Mode

SRV Menu / Job#		Description
Setting –System Preset	904-A	Printing of Date
Setting – System Preset	904-B	Printing of Consecutive Number
Setting – System Preset	911-D	Receipt Header Format
Setting – System Preset	912-D	Receipt Logo Format
Setting – Free Key	950	Function No. 40 RCPT (Copy Receipt)
		Function No. 80 RECEIPT ON/OFF

PGM2 Mode

PGM Menu #	Selection	Description	Options
2. Setting	5. Media	1. Cash	Footer on Receipt Number of Receipt Chit Receipt
		2. Check	
		3. Charge	
		8. Service	
		9. Final	
	10. Optional	4. Print Select	Time Printing Tax Status

2. BILL Printer setup

A BILL printer may be added to the UP800 configuration for printing Guest checks. The selected Epson series printers may be used and setup as outlined below:

Procedure

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [05 BILL PRINTER]
④ Enter the desired Terminal # and/or Channel # and choose the desired parameters:

- **Printer Name (Type)** ← ***to view the available printers depress the [DECIMAL OR SBTL] key***
- **Auto Cutter Yes/No**
- **Initial Feed # = 02 min.**
- **Slip Max Line = 32 or 36 to prevent the printer from going into an endless loop.**

⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE:
When "ALL" devices are assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method: The CHANNEL NO. Assignment s required at the machine where the printer is physically connected. For the Inline configuration – the TERMINAL and CHANNEL of the machine where the printer is physically located is required.

Please consider the general rules listed below when using this feature: A printing device cannot be assigned to a Channel where a non-printing device is already assigned (ex: SCALE).

Related Programming Jobs: BILL Printer

SRV Mode

SRV Menu / Job#		Description
Setting – System Preset	911D	Slip Header Detail
Setting – System Preset	921C = 1	To retain detail
Setting – System Preset	928-C	Printing of "0" Price Items on Bill
		Printing of PLU Text in a Combo Meal on Bill
Setting – System Preset	928-D	Compulsory Bill Printing Method
Setting – Free Key	950	Function No. 39 [BILL]
		Function No. 52 [GLU/PBLU]
		Function No. 53 [N.C.]
		Function No. 54 [SERVICE]
		Function No. 55 [FINAL]

PGM2 Mode

PGM Menu#	Selection	Description	Option
2. Setting	5. Media	1. Cash	Header On Bill Footer On Bill Bill Print Compulsory
		2. Check	
		3. Charge	
		8. Service	
		9. Final	
	10. Optional	4. Print Select	Item on Bill
	13. Logo Text	3 Bill Logo	Header and Footer

3. Report Printer setup

A Report printer may be added to the UP800 configuration for issuing Individual or System Sales Reports. The built-in printer or an external unit can be used. The Epson series printers may be used and may be setup as outlined below:

Procedure

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [06 REPORT PRINTER]
④ Enter the desired Terminal # and/or Channel # and choose the desired parameters:

- **Printer Name (Type)** ← ***to view the available printers depress the [DECIMAL or SBTL] key***
- **Auto Cutter Yes/No**
- **Logo Text** ← ***to view the choices depress the [DECIMAL or SBTL] key***

⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu.

NOTE:
When “ALL” devices are assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method: The CHANNEL NO. Assignment is required at the machine where the printer is physically connected. For the Inline configuration – the TERMINAL and CHANNEL of the machine where the printer is physically located is required.

Please consider the general rules listed below when using this feature:

- A printing device can not be assigned to a Channel where a non-printing device is already assigned (ex: SCALE).

Related Programming Jobs: Report Printer

SRV Mode

SRV Menu / Job#		Description
Setting – System Preset	905	Taxable 4 Subtotal, Gross Tax, Refund, Net Tax GST EXPT print on X/Z Report
Setting – System Preset	908-D	Printing of X/Z Report
Setting – System Preset	909-B	Printing PLU/UPC sales data on Z Report
Setting – System Preset	909 A, C	Printing Training GT, VOID Mode Totalizer on X/Z Report
Setting – System Preset	917	Printing Tax 1,2,3, and manual Tax on X/Z Report
Setting – System Preset	918D	Tip Totalizer Reset and Print
Setting – System Preset	925	In-Line Reporting

PGM2 Mode

PGM Menu #	Selection	Description	Options
2. Setting	10. Optional	1. Func. Prohibit	OPX/Z Report
		2. Func. Select2	Auto Hourly

4. Validation Printer setup

A Validation Printer may be added to the UP800 configuration to allow for the VP Text Message e.g. FOR DEPOSIT ONLY.

Only the Epson TM-295 series printers may be used as a Validation Printer.

Procedure

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [07 VALIDATION (VP)]
④ Enter the desired Terminal # and/or Channel # and choose the desired parameters:
- **Printer Name (Type)** ← ***to view the available printers depress the [DECIMAL or SBTL] key***
- **VP Times (0-9)**

⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE: When "ALL" devices are assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method: The CHANNEL NO. Assignment is required at the machine where the printer is physically connected. For the Inline configuration – the TERMINAL and CHANNEL of the machine where the printer is physically located is required.

Please consider the general rules listed below when using this feature:

- A printing device can not be assigned to a Channel where a non-printing device is already assigned (ex: SCALE).

Related Programming Jobs: Validation Printer

SRV Mode

SRV Menu# / Job#		Description
Setting – System Preset	913-A =1	Validation Print Format and Contents (Tendered Amount)
Setting – System Preset	928	VP Message printing n slip enabled for Check & Charge
Setting – Free Key		Function No. 38 [VALIDATION PRINT]

PGM2 Mode

PGM Menu #	Selection	Description	Options
2. Setting	01. Article	01. Department	Compulsory Validation
	05. Media	1. Cash	VP Non-Compulsory or Compulsory
		2. Check	
		3. Charge	
		8. Service	
		9. Final	
	10. Optional	1. Func. Select1	Item, RF/RT, (-), CA/CHK RA, PO and Tip VP
	13. Logo Text	2 VP Text	e.g. For Deposit Only

Epson Series Printers

Epson TM-U295:

TM-U295 Switch–1Settings:

ROM Version 1.08				
Switch	**Contents**	**On**	**Off**	**Setting**
SW1-1	Data Receive Buffer	Ignored	Prints "?"	OFF
SW1-2	Receive Buffer Capacity	35 bytes	512 Kbytes	OFF
SW1-3	Handshaking	XON/XOFF	DTR/DSR	OFF
SW1-4	Data Word length	7 bits	8 bits	OFF
SW1-5	Parity Check	With Parity	Without Parity	OFF
SW1-6	Parity selection	Even Parity	Odd Parity	OFF
SW1-7	Baud Rate Selection	(*1)		OFF
SW1-8	Baud Rate Selection	(*1)		OFF
SW1-9	DSR (#6) Reset	Effective	Invalid	OFF
SW-10	Init (#25) Reset	Effective	Invalid	ON

(*1): SW1-7, 1-8 Definitions

Rate	SW1-7	SW1-8
1200 bps	ON	ON
2400 bps	OFF	ON
4800 bps	ON	OFF
9600 bps	OFF	OFF

Epson TM-U300:

Switch Settings

Switch Settings				
Switch	Contents	ON	OFF	UP-3301 Requirements
SW-1	Data Receive error	Ignored	Prints "?"	OFF
SW-2	Receive Buffer Capacity	48 bytes	4 Kbytes	OFF
SW-3	Handshaking	XON/XOFF	DTR/DSR	OFF
SW-4	Word Length	7 bits	8 bits	OFF
SW-5	Parity check	with Parity	without Parity	OFF
SW-6	Parity selection	Even parity	Odd parity	OFF
SW-7	Baud Rate setting	(*1)		OFF
SW-8	Baud Rate setting	(*1)		OFF
SW-9	Internal use (fixed)	Ignored	Prints "?"	OFF
SW-10	Internal use (fixed)	Connect	Not connected	OFF

(*1) Baud Rate selection

Rate	SW-7	SW-8
1200	ON	ON
2400	OFF	ON
4800	ON	OFF
9600	OFF	OFF

Epson TM-T80:

Switch Settings

Switch Settings				
Switch	Contents	ON	OFF	UP-3301 Requirements
SW1-1	Data Receive error	Ignored	Prints "?"	OFF
SW1-2	Receive Buffer Capacity	45 bytes	4 Kbytes	OFF
SW1-3	Handshaking	XON/XOFF	DTR/DSR	OFF
SW1-4	Parity check	with Parity	without Parity	OFF
SW1-5	Parity selection	Even parity	Odd parity	OFF
SW1-6	Baud Rate setting	(*1)		ON (9600)
SW1-7	Baud Rate setting	(*1)		OFF
SW1-8	Print Density selection	(*2)		OFF (Level2)
SW1-9	Print Density selection	(*2)		OFF
SW1-10	(fixed to OFF)	---	---	OFF

(*1) Baud Rate selection

Rate	SW1-6	SW1-7
1200	ON	ON
4800	OFF	ON
9600	ON	OFF
19200	OFF	OFF

(*2) print Density selection

Level	SW2-2	SW2-3
Level-1	ON	ON
Level-2	OFF	OFF
Level-3	ON	OFF
Level-4	OFF	ON

Light
Dark

Epson TM-T85:

Switch Settings

Switch Settings				
Switch	Contents	ON	OFF	UP-3301 Requirements
SW1-1	Data Receive error	Ignored	Prints "?"	OFF
SW1-2	Receive Buffer Capacity	45 bytes	4 Kbytes	OFF
SW1-3	Handshaking	XON/XOFF	DTR/DSR	OFF
SW1-4	Parity check	with Parity	without Parity	OFF
SW1-5	Parity selection	Even parity	Odd parity	OFF
SW1-6	Baud Rate setting	(*1)		ON (9600)
SW1-7	Baud Rate setting	(*1)		OFF
SW1-8	Print Density selection	(*2)		OFF (Level2)
SW1-9	Print Density selection	(*2)		OFF
SW1-10	(fixed to OFF)	---	---	OFF

(*1) Baud Rate selection

Rate	SW1-6	SW1-7
1200	ON	ON
4800	OFF	ON
9600	ON	OFF
19200	OFF	OFF

(*2) print Density selection

Level	SW2-2	SW2-3
Level-1	ON	ON
Level-2	OFF	OFF
Level-3	ON	OFF
Level-4	OFF	ON

Light
Dark

Epson TM-T88 (2):

Switch Settings

TM-T88(3)				
Switch	Contents	ON	OFF	UP-3301 Requirements
SW1-1	Data Receive error	Ignored	Prints "?"	OFF
SW1-2	Receive Buffer Capacity	45 bytes	4 Kbytes	OFF
SW1-3	Handshaking	XON/XOFF	DTR/DSR	OFF
SW1-4	Data Word length	7 bits	8 bits	OFF
SW1-5	Parity Check	with Parity	without Parity	OFF
SW1-6	Parity selection	Even Parity	Odd Parity	OFF
SW1-7	Transmission Speed	(*1)		ON (9600)
SW1-8	Transmission Speed	(*1)		OFF
SW2-1	Busy Condition	Buffer Full – Off Line	Buffer Full – Printer error	OFF
SW2-2	Do Not Change	--	--	OFF
SW2-3	Print Density/Low power	(*2)		OFF
SW2-4	Print Density/Low power	(*2)		OFF
SW2-5	Release condition of Receive error	Remaining receive buffer capacity reaches 138 bytes	Remaining receive buffer capacity reaches 256 bytes	OFF
SW2-6	Do Not Change	--	--	OFF
SW2-7	Do Not Change	--	--	OFF
SW2-8	Do Not Change	--	--	OFF

(*1) Baud Rate selection

Rate	SW1-7	SW1-8
1200	ON	ON
4800	OFF	ON
9600	ON	OFF
19200	OFF	OFF

(*2) print Density selection

Level	SW2-2	SW2-3
Low power consumption mode	ON	ON
1 (Normal)	OFF	OFF
2 (Medium)	ON	OFF
3 (Dark)	OFF	ON

Data Transmission Format

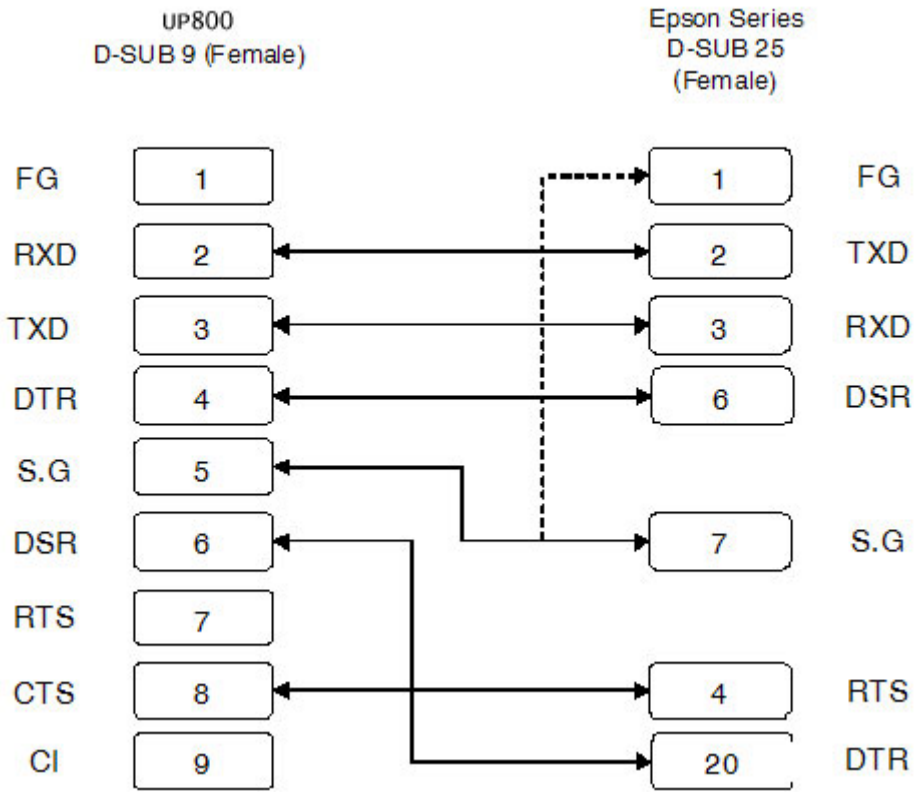
- 7 bits ASCII code
- One Start bit
- Even Parity
- One Stop bit
- Baud Rate: 9600 bps asynchronous

Connection Cable

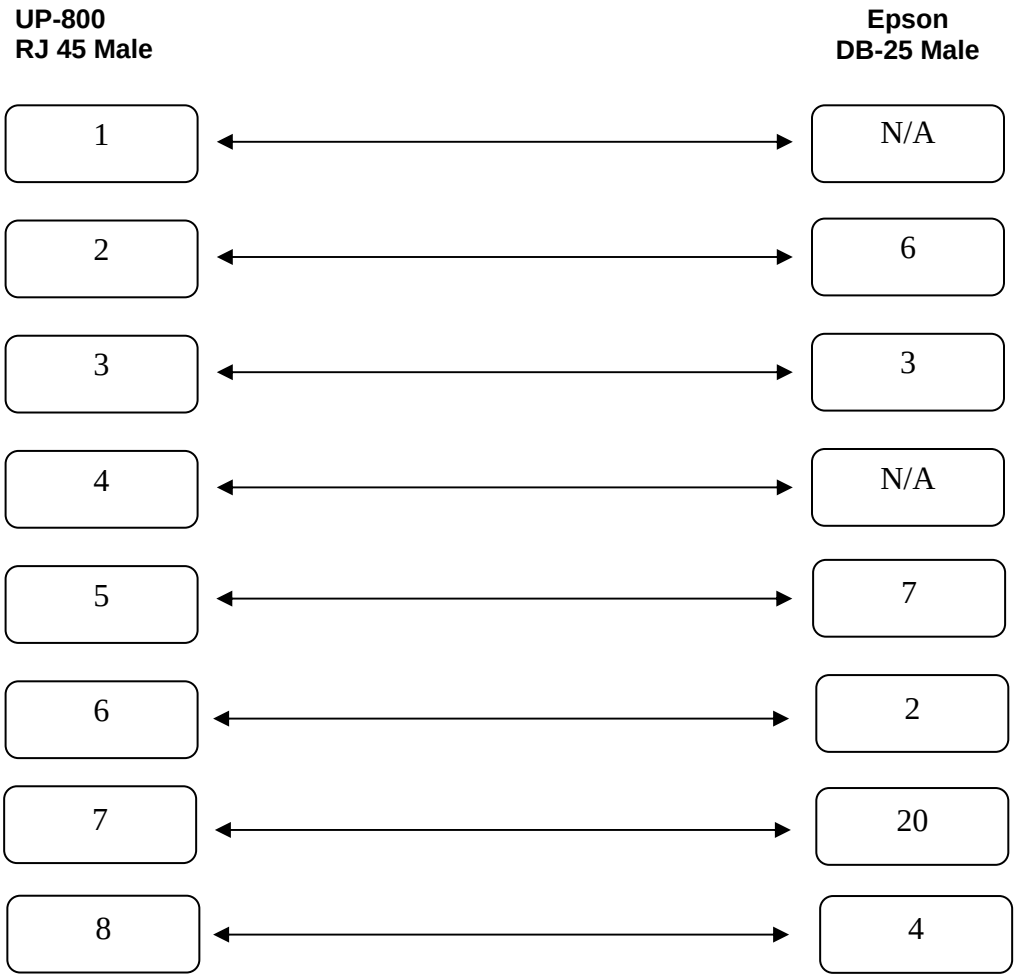
The pin outs for the Epson Series printers are shown below:

DB-9 to DB-25 Printer Cable

Datacomm Part# DCN 99521-3E (800) 544-4627

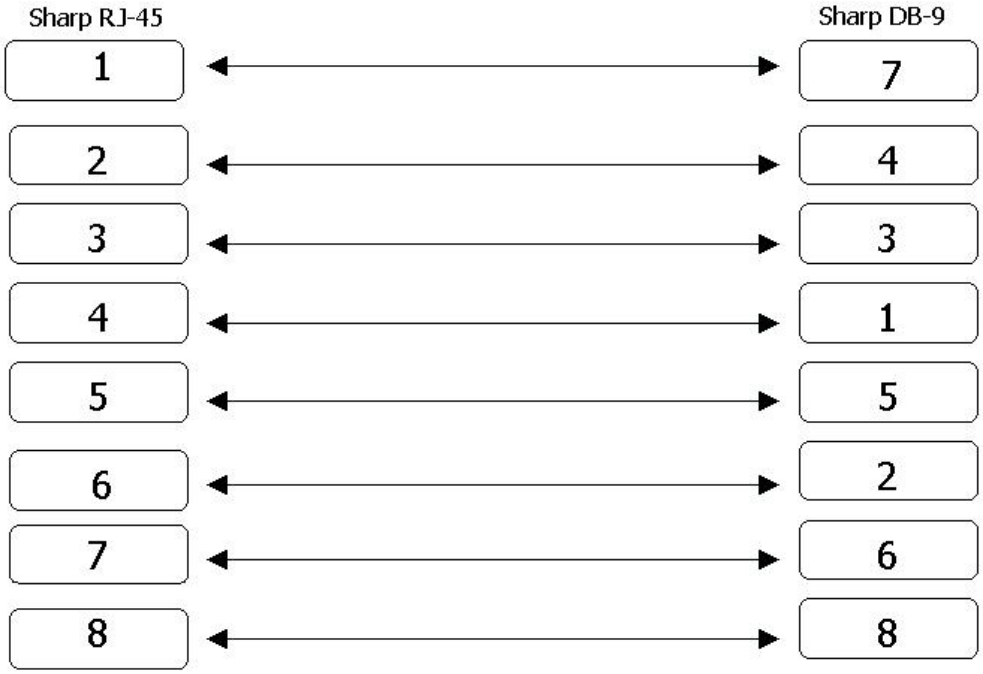


RJ-45 to DB-25 Printer Cable



Modular Conversion Cable for CH2

Datacomm Part# DCN100226-3E (800) 544-4627



Section-4: Scanner (Barcode Reader)

A serial Scanner may be added to the UP800 configuration for reading barcodes as outlined in the examples below. The dealer must procure the scanner. Please inform the supplier that the scanner will be interfaced with a Sharp POS System.

The UP-800 is capable of scanning the following UPC (EAN) codes.

1) UPC (EAN) Available Codes:
UPC-A (Number System Character 0,2,3,4,5)

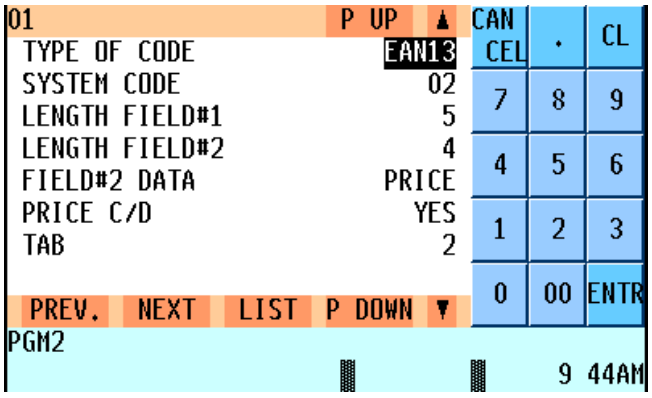
0	*	*	*	*	*	“	“	“	“	“	C/D
				* Maker Code						“Item Code	
2	“	“	“	“	“	‘	*	*	*	*	C/D
				“Item Code			‘P/C-Price Check Digit			*Price	

Note: Maximum Price = $99.99

The following programming is required at the POS to change the EAN 13 UPC code Non-PLU code format (flag code 02, 20-29) to allow a five-digit price. EAN-13 codes are used for in store marking, such as meats and variable weight items.

Scale
Change the scale from UPC A Type 2 to EAN13 code.

UP-800
Press [MODE]
Select [6 PGM2 MODE]
Select [02 SETTING]
Select [01 ARTICLE]
Select [11 UPC NON-PLU]



Type of Code = Non-PLU Format EAN13.
System Code = Flag Code (02, 20-29).
Length FLD#1 = number of digits for Field 1.
Length FLD#2 = number of digits for Field 2.
Field#2 Data = PRICE.
TAB = number of digits after the decimal place.

3											C/D

Use for National Drug Codes or National Health Retail Item Codes

4	*	*	*	*	*	*	*	*	*	*	C/D

*Free Format

5	*	*	*	*	‘	‘	‘	“	“	C/D

*Maker Code ‘Family Code “Coupon Price

UPC-E

UPC-E is a zero-suppressed version of UPC-A which conforms to the UPS-E Standards.

EAN 13

*	*	“	“	“	“	“	‘	‘	‘	‘	‘	C/D

*Nation Code “ Maker Code ‘Item Code

EAN-13 plus Add-On

*	*	“	“	“	“	“	‘	‘	‘	‘	‘	C/D

*Nation Code “Maker Code ‘Item Code

*	*	*	*	*

*Add On Codes (5 Digits)

*	*	“	“	“	“	“	‘	‘	‘	‘	‘	C/D

*Nation Code “Maker Code ‘Item Code

*	*

*Add On Codes (2 Digits)

EAN8

Ordinary EAN-8 Codes

40 123 12 7
AB CDE FG H
AB: Nation Code
CDE: Maker Code
FG: Item Code
H: Check Digit

*	*	“	“	“	“	‘	CD

*Nation Code “Maker Code ‘Item Code

Internal encoding using the EAN-8 Code (2x Code)

2	*	*	“	“	“	“	CD

*Dept Code “Price

1. Scanner Setup

Procedure

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [19 BCR(SCANNER)]
④ Enter the desired Channel #. The Baud Rate, Data Bits, Parity and Stop Bit should be set as indicated in the slide.
⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE: When "ALL" devices are assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method: The CHANNEL NO. assignment is required at the machine where the Scanner is physically connected. For the Inline configuration – there is no re-routing function available.

Related Programming Jobs: Scanner

SRV Mode Related Jobs

SRV Menu / Job#		Description
Setting – System Preset	906-A	Inhibit PLU/UPC (EAN) item when Stock goes Negative
Setting – System Preset	906-D	UPC Price Look Up at Refund Entry
Setting – System Preset	907-B	UPC (EAN) Codes printing on Receipt and Journal
Setting – System Preset	907-C	Enable Negative UPC
Setting – System Preset	909-B	Printing of UPC Data when resetting
Setting – System Preset	911-B	C/D check of UPC (EAN)
Setting – System Preset	918-C	Printing of UPC text on KP in double size character
Setting – System Preset	920-C	Automatic UPC download to all machines in an inline system
Setting – System Preset	921-A	Convert UPC-E code to UPC-A code
Setting – File		File Group No. 6 PLU/UPC
Setting – File		File Group No. 7 or 8 PLU/UPC Price 1 or PLU/UPC Price 1-6
Setting – File		File Group No. 9 or 10 PLU/UPC Text (8) or PLU/UPC Text (16)
Setting – File		File Group No. 11 or 14 PLU/UPC KP Text 1 (12) or PLU/UPC KP Text 1-6 (12)
Setting – File		File Group No. 12 or 13 PLU/UPC Text 1-6 (8) or PLU/UPC Text 1-6 (16)
Setting – File		File Group No.18 Dynamic UPC
Setting – File		File Group No. 19 or 20 Dynamic UPC Price 1 or Dynamic UPC Price 1-6
Setting – File		File Group No. 20 or 23 Dynamic UPC KP Text 1 (12) or Dynamic UPC KP Text 1-6 (12)
Setting – File		File Group No. 24 or 25 Dynamic UPC Text 1-6 (8) or Dynamic UPC Text 1-6 (16)
Setting – File		File Group No. 28 UPC PGM Pick Up
Setting – File		File Group No. 29 Dynamic PGM Pick Up
Setting – File		File Group No. 30 EAN X/Z Pick Up
Setting – File		File Group No. 27 Term Dynamic PLU
Setting – File		File Group No. 31 Dynamic UPC X/Z Pick Up
Setting – Free Key		Function No. 29 Delete key
Setting – Free Key		Function No. 36 PLU/UPC key
Setting – Free Key		Function No. 68 Repeat key
Setting – Free Key		Function No. 69 Amount key
Setting – Free Key		Function No. 70 Department number entry key
Setting – Free Key		Function No. 71 Inquire key
Setting – Free Key		Function No. 72 Price change key

PGM2 Mode

PGM Menu #	Selection	Description	Options
2. Setting	01. Article	02. PLU/UPC	UPC Programming
		11. UPC Non-Plu	UPC Non-PLU Programming
		12. UPC Delete	Non used UPC period (day)
	10. Optional	1. Func. Prohibit	UPC learning, Price Change
		3. Func. Select2	ISBN Price
4. D-UPC Load			Uploading UPC from Dynamic UPC file to main UPC

Suggested Suppliers

The supplier information contained in this document is furnished without assurance of peripheral/software compatibility between Sharp POS products and the products of the suppliers listed.

Product specifications change without notifications (both our products and the supplier's products).

SHARP POS does not undertake to update materials. It is the dealer's responsibility to keep current with all technical issues associated with these products

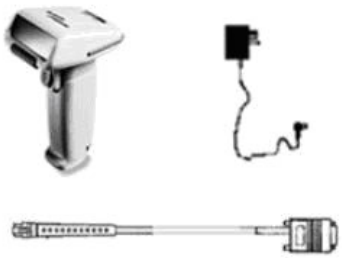
SYMBOL TECHNOLOGIES INC.
One Symbol Plaza
Hotsville, NY 11742-1300
PHONE: 1-800-722-6234
INTERNET: htttp://www.symbol.com

METROLOGIC INSTRUMENTS, INC.
90 Coles Road
Blackwood, NJ 08012
PHONE: 800-ID-METRO (436-3876) or 856-228-8100
FAX: 856-228-6673
Email: marketing@metrologic.com
INTERNET: www.metrologic.com

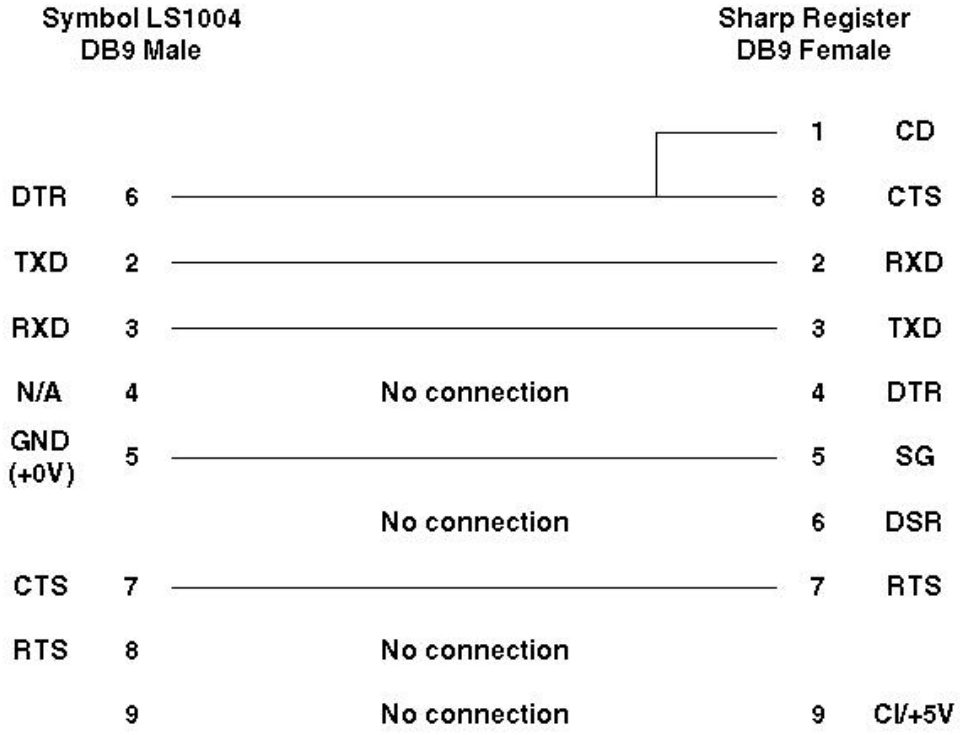
READY DISTRIBUTION
8303 SW Cirrus Drive
Beaverton, Oregon 97008
PHONE: 800-255-6676
INTERNET: http://readypos.com
EMAIL: sales@readypos.com; support@readypos.com

What to purchase – Symbol Models

Please inform the supplier that the scanner will be interfaced with a Sharp POS System.

Scanner (Model)	Power Adapter	Serial (RS232) Adapter Cable	POS
 ND 1223 Rev B9915-20312-01		Dealer Provides  ADAPTER CABLE	
   25-164-56-20 REV A 001726676A CABLE, RS232		Dealer Provides  ADAPTER CABLE	

LS 1004/4004 Adapter Cable



Note: Use 5 conductor, shielded cable that complies with all local and national electrical codes. Length should be as short as practical, not to exceed 3 feet long.

LS1004 Programming Barcodes

The following options need to be set on the scanner. Please consult your bar code scanner documentation to obtain the barcodes to program the scanner. Scan the codes in the following order:

1. Set RS-232C Host
2. Standard RS-232 Host Type
3. Continuous
4. Disable All Code types
5. Enable UPC/EAN
6. Do Not Transmit UPC-A Check Digit
7. Do Not Transmit UPC-E Check Digit
8. Decode UPC Only Disable
9. Do Not Convert UPC-E to UPC-A
10. Ignore UPC/EAN Supplementals
11. Disable EAN Zero Extend
12. System Character
13. Disable Code 128
14. Do Not Verify Code-39 Check Digit
15. Disable Code 39 – Full ASCII
16. Disable Code 93
17. Disable Code I 2 of 5
18. Disable Code D 2 of 5
19. Disable Codabar
20. Disable CLSI Editing
21. Transmit Code ID Character
22. Prefix STX
23. Suffix CR
24. 4800
25. Odd
26. 7-Bit
27. 1 Stop Bit
28. RTS/CTS
29. None (Parity)

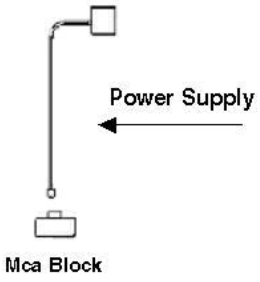
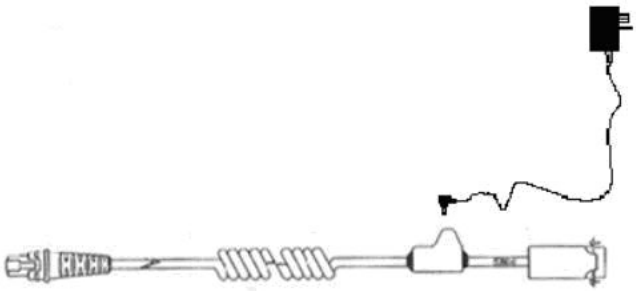
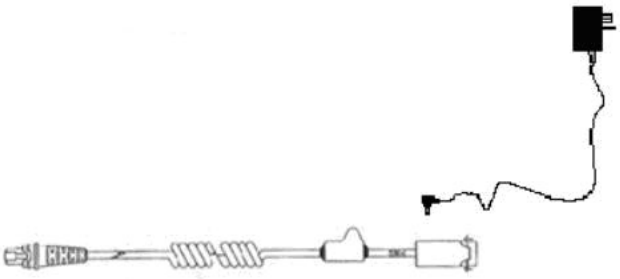
LS 4004 Scanner Programming Barcodes

The following options need to be set on the scanner. Please consult your bar code scanner documentation to obtain the barcodes to program the scanner. Scan the codes in the following order:

1. Set Defaults
2. Fujitsu RS-232C
3. Continuous On
4. Do Not Transmit UPC-A Check Digit
5. Do Not Transmit UPC-E Check Digit
6. Symbol Code ID Character
7. Scan Prefix
8. 1
9. 0
10. 0
11. 2
12. Scan Options
13. Prefix Data Suffix
14. Enter
15. 4800
16. Odd
17. 7 Bit

What to purchase – Metrologic Models

Please inform the supplier that the scanner will be interfaced with a Sharp POS System.

Scanner (Model)	Power Adapter	Serial (RS232) Adapter Cable	POS
			
		CABLE PART # 53601A	
		CABLE PART # 53601A	

Metrologic MS6720 Adapter Cable

Scanner DB9 Male		Sharp Register DB9 Female
RTS 8	———	1 CD
TXD 2	———	2 RXD
RXD 3	———	3 TXD
N/A 4	NO CONNECTION	4 DTR
GND 5 (0+V)	———	5 SG
6	NO CONNECTION	6 DSR
CTS 7	———	7 RTS
9	———	9 CI/+5V
4		
6		

Note: Use 6 conductor, shielded cable that complies with all local and national electrical codes. Length should be as short as practical, not to exceed 3 feet long.

MS-6720 Scanner Programming Barcodes

The following options need to be set on the scanner. Please consult your bar code scanner documentation to obtain the barcodes to program the scanner. Scan the codes in the following order:

1. Enter Program Mode
2. Recall Defaults
3. Parity=Odd
4. Enable RTS/CTS
5. Disable Line Feed
6. 4800 Baud Rate
7. Enable STX Prefix
8. Enable UPC Prefix
9. Exit Program Mode

Metrologic 7120 Programming Barcodes

The following options need to be set on the scanner. Please consult your bar code scanner documentation to obtain the barcodes to program the scanner. Scan the codes in the following order:

1. Enter Program Mode
2. Recall Defaults
3. 4800 Baud Rate
4. Enable RTS/CTS Handshaking
5. Enable STX Prefix
6. Enable UPC Prefix
7. Parity=Odd
8. Disable LF Suffix
9. Allow Configuration Mode on Power Up
10. Disable Codabar
11. Disable Code 128
12. Disable Code 93
13. Disable I 2 of 5
14. Exit Program Mode

Metrologic MS9520/40 Programming Barcodes

The following options need to be set on the scanner. Please consult your bar code scanner documentation to obtain the barcodes to program the scanner. Scan the codes in the following order:

1. Enter Program Mode
2. Recall Defaults
3. 4800 Baud Rate
4. Enable STX Prefix
5. Enable UPC Prefix ID
6. Parity=Odd
7. Enable RTS/CTS Handshaking
8. Allow Configuration Mode on Power Up
9. Disable Codabar
10. Disable Code 128
11. Disable Code 93
12. Disable I 2 of 5
13. Exit Program Mode

Section-5: Scale

The Scale may be added to the UP800 configuration as outlined below. Models ERSC6710 and ERSC6720 Avery/Weightronix Scales (Serial) are available from Sharp Sales.

1. Scale Setup

Procedure

Enter SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [21 SCALE]
④ Enter the desired Channel #
⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE: When "ALL" devices are assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method: The CHANNEL NO. Assignment is required at the machine where the Scale is physically connected. For the Inline configuration – there is no re-routing function available.

Please consider the general rules listed below when using this feature:

- Manual entry of weighed items is prohibited unless the item is refunded.
- The UP800 customer display is not the certified display for the scale.

Related Programming Jobs: Scale

SRV Mode Related Jobs

	SRV Job#	Description
Setting – System Preset	902-C = 5	Allows the item subtotal to display on screen. Otherwise only the weight ad price per pound will display. Required for scale refund operation
Setting – System Preset	903-B	Scale Weight System
Setting – System Preset	903-C	Scale is Enabled
		Tare Entry is Enabled
		Unit Weight for Scale Entry
Setting – System Preset	906-C	Multiplication Entry. If using, UP-P16DP set to 5.
Setting – System Preset	906-D	Fractional Qty entries are Enabled
Setting – Free Key	950	Function No. 35 [SCALE]
		Function No. 66 [OPEN TARE]

PGM2 Mode

PGM Job #	Selection	Description	Options
2. Setting	01.Article	01. Department	Scale Compulsory / Inhibit/ Enable
		02. PLU/UPC	
		03. PLU Range	
	10. Scale Table		Table 1 – 9 (Weight preset)

Department Programming

Follow the procedure outlined below to assign the Scale status to a department.

Procedure

Enter the PGM2-Mode by turning the MA key counter clock wise to the PGM2 position.

① Press [MODE]
② Select [6 PGM2 MODE]
③ Select [02 SETTING]
④ Select [01 ARTICLE]
⑤ Select [01 DEPARTMENT]
⑥ Select the desired department from the Department list
⑦ Go to the SCALE option and select “INHIBIT”/”ENABLE”/”COMPULSORY” by toggling the setting with the [.] decimal key or by depressing [SBTL] and making the desired setting.

Assignment Method:
A Department may be preset as Scale: Inhibited”/”Enabled”/”COMPULSORY”.

Please consider the general rules listed below when using this feature:

- A setting of “COMPULSORY” allows scalable registration without the depression of the [SCALE] key prior to the entry
- The Fast Food multiplication sequence must be disabled in SRV Job#906-C

PLU Programming

Follow the procedure outlined below to assign the Scale status toa PLU/UPC.

Procedure

Enter the PGM2-Mode by turning the MA key counter clock wise to the PGM2 position
① Press [MODE]
② Select [6 PGM2 MODE]
③ Select [02 SETTING]
④ Select [01 ARTICLE]
⑤ Select [02 PLU/UPC]
⑥ Select the desired PLU from the PLU list
⑦ Go to the SCALE option and select “INHIBIT”/”ENABLE”/”COMPULSORY” by toggling the setting with the [.] decimal key or by depressing [SBTL] and making the desired setting.

Assignment Method:
A PLU may be preset as Scale: “Inhibited”/”Enabled”/”COMPULSORY”.

Please consider the general rules listed below when using this feature:

- A setting of “COMPULSORY” allows scalable registration without the depression of the [SCALE] key prior to the entry.
- The Fast Food multiplication sequence must be disabled in SRV Job#906-C.

Tare Table Programming

Follow the procedure outlined below to program the tare tables. A maximum of 9 scale tare tables are available. System Preset 903C = 2 or 3 to allow scale tare tables.

Procedure

① Press [MODE]
② Select [6 PGM2 MODE]
③ Select [02 SETTING]
④ Select [01 ARTICLE]
⑤ Select [10 SCALE TABLE]
⑥ Select the desired Tare Weight Table
⑦ Enter the Tare Weight which is to be deducted when the article is to be weighed followed by entering the [ENTER] to return to the Scale Table sub-menu.

Assignment Method:
A Tare (Scale Table) weight preset will be based on the setting in SRV Job#903

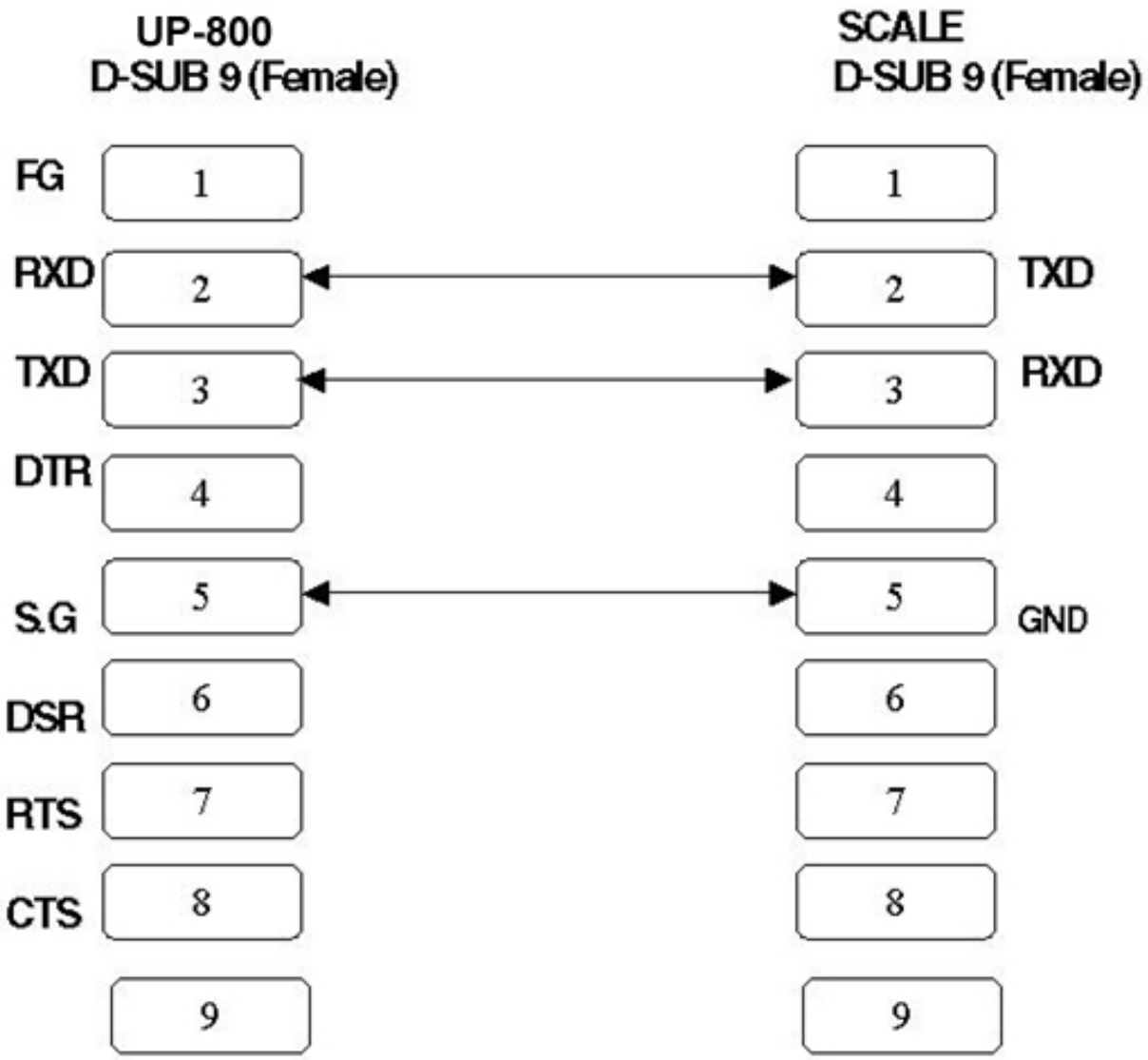
Please consider the general rules listed below when using this feature:

- The Scale Table assignment is by each Department and/or PLU

2. Data Transmission Format

- 7 bits ASCII code
- Even Parity
- One Stop bit
- Baud Rate: 9600 bps

3. Connection Cable Diagram



Section-6: Coin Dispenser

The TeleQuip Transact Coin Dispenser may be added to the UP800 configuration as outlined below:

1. Coin Dispenser Setup

Procedure

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [22 COIN DISPENSER]
④ Enter the desired Channel #
⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE: When "ALL" devices are assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method: The CHANNEL NO. Assignment is required at the machine where the Coin Dispenser is physically connected. For the Inline configuration – there is no re-routing function available.

Please consider the general rules listed below when using this feature:

- In order for the Coin Dispenser to issue change, the Cashier/Server drawer assignment must be set ("1", or "2")
- Change due must be enabled in the Media programming.

Related Programming Jobs: Coin Dispenser

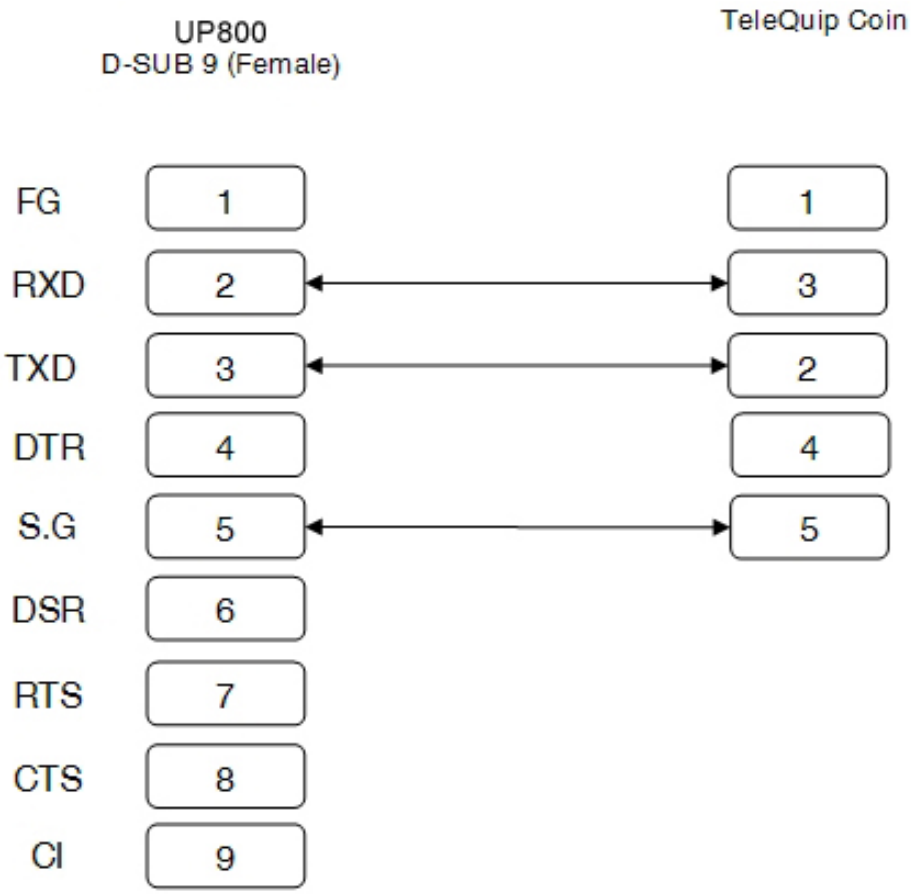
PGM2 Mode

PGM Job#	Selection	Description	Options	
2. Setting	5. Media	1. Cash 2. Check	Short Tender	Enable
			Change Due	Enable
			Drawer Opening	Yes

2. Data Transmission Format

- 7 bits ASCII code
- One Start bit
- Even Parity
- One Stop bit
- Baud Rate: 9600 bps asynchronous

3. Connection Cable Diagram



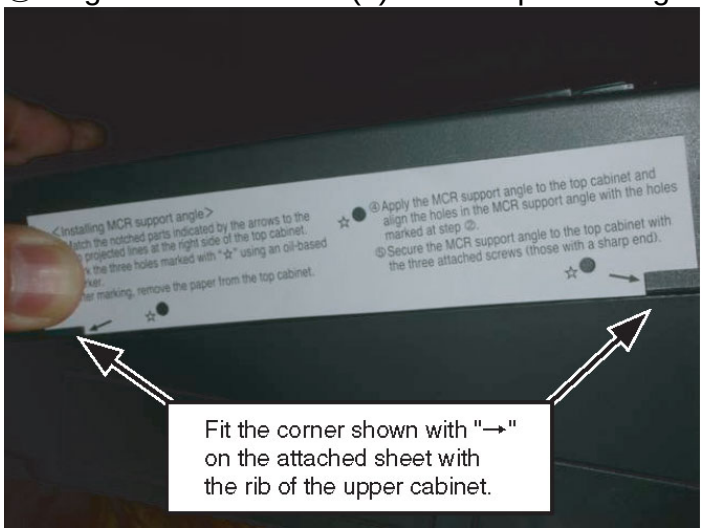
Section-7: MCR UNIT UP-E13MR3

The Magnetic Card Reader is used for account balances, Customer File, Credit Cards, and Debit card. Tracks 1, 2, and 3 are available.

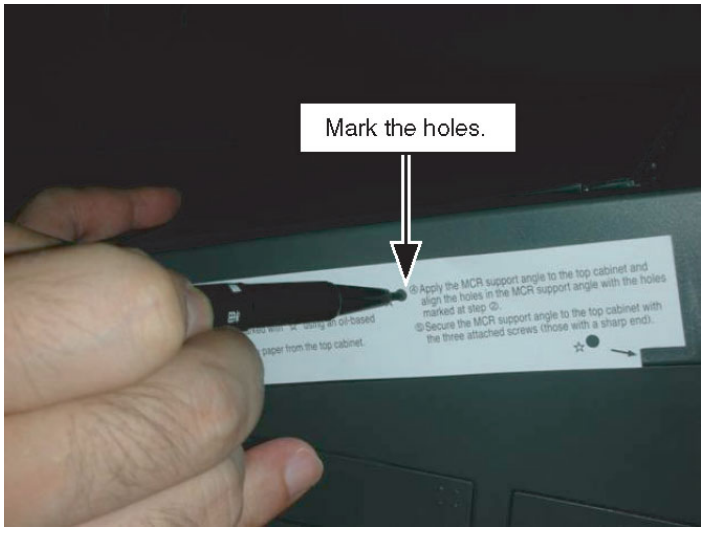
1. MCR Installation

Procedure

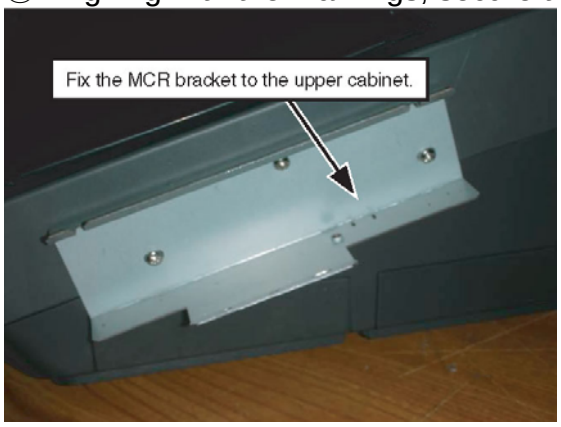
① Align the MCR sheet (1) with the positioning line of the top cabinet.



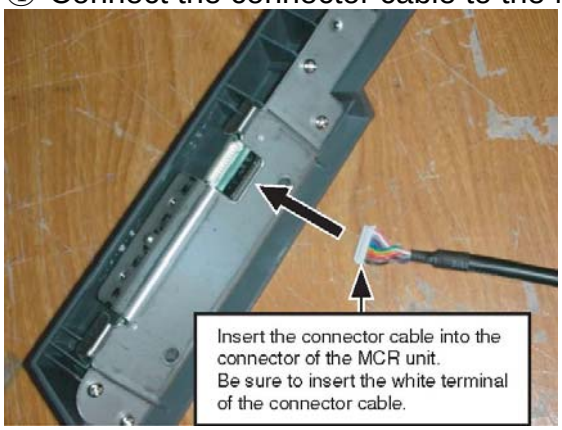
② Mark 3 points of the asterisk mark on the MCR sheet (3).



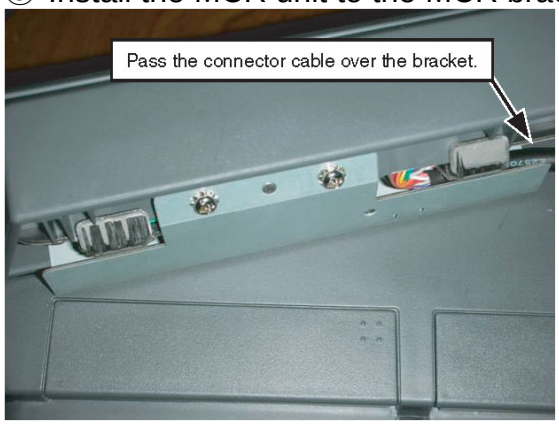
③ Aligning with the markings, secure the MCR bracket to the top cabinet with 3 screws.



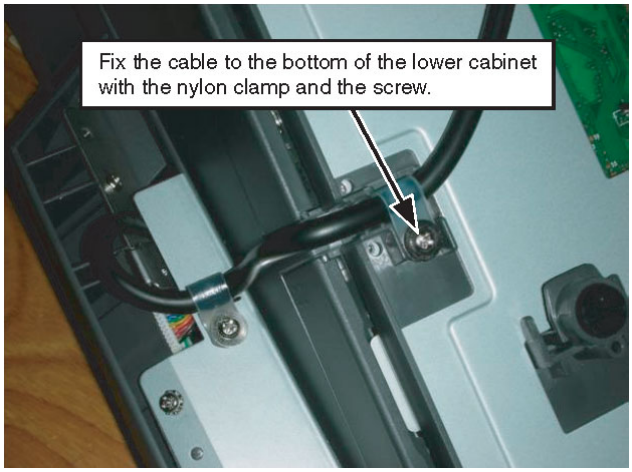
④ Connect the connector cable to the MCR unit.



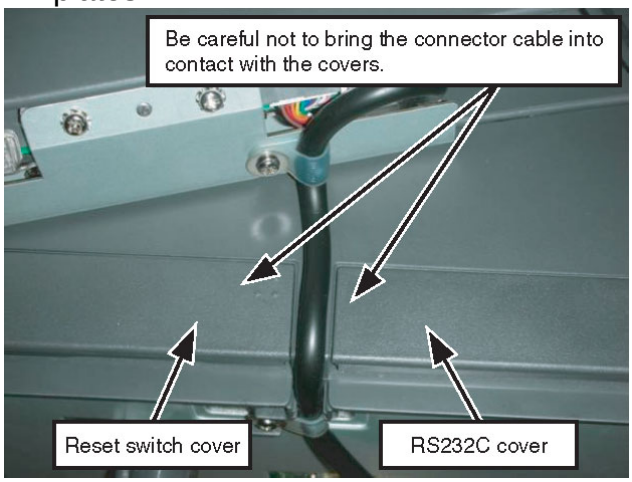
⑤ Install the MCR unit to the MCR bracket.



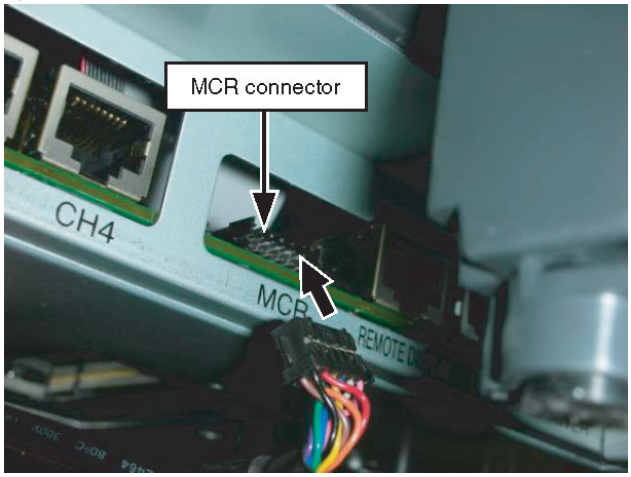
⑥ Fix the connector cable to the MCR unit.



⑦ Fix the connector cable to the bottom of the lower cabinet with the nylon clam and screw. Note: Since the connector cable is passed through the gab between the reset switch cover and the RS232C cover, avoid bringing the cable in contact with the cover plates.



⑧ Connect the connector cable to the main unit



Section-3: More on RS232

RS232 communications for peripheral devices is usually low-speed communications, which do not demand the tight specifications required for complex communications.

Cabling considerations - you should use cabling made for RS-232 data communications using a high quality low capacitance data grade cable. The standard maxim length is 50' but if data is Async you can increase that distance with a good grade of cable.

The RS-232 signal on a single cable is impossible to screen effectively for noise. By screening (or shielding) the entire cable you can reduce the influence of outside noise, but internally generated noise remains a problem. As the baud rate and line length increase, the effect of capacitance between the different lines introduces serious cross talk (this especially true on synchronous data - because of the clock lines) until a point is reached where the data itself is unreadable. Using low capacitance cable and shielding each pair can reduce Signal Cross talk.

The maxim distance will depend on the speed and noise level around the cable run.
On longer runs a line driver may be required. This is a simple modem used to increase the maxim distance you can run RS-232 data.

Section – 5: INLINE

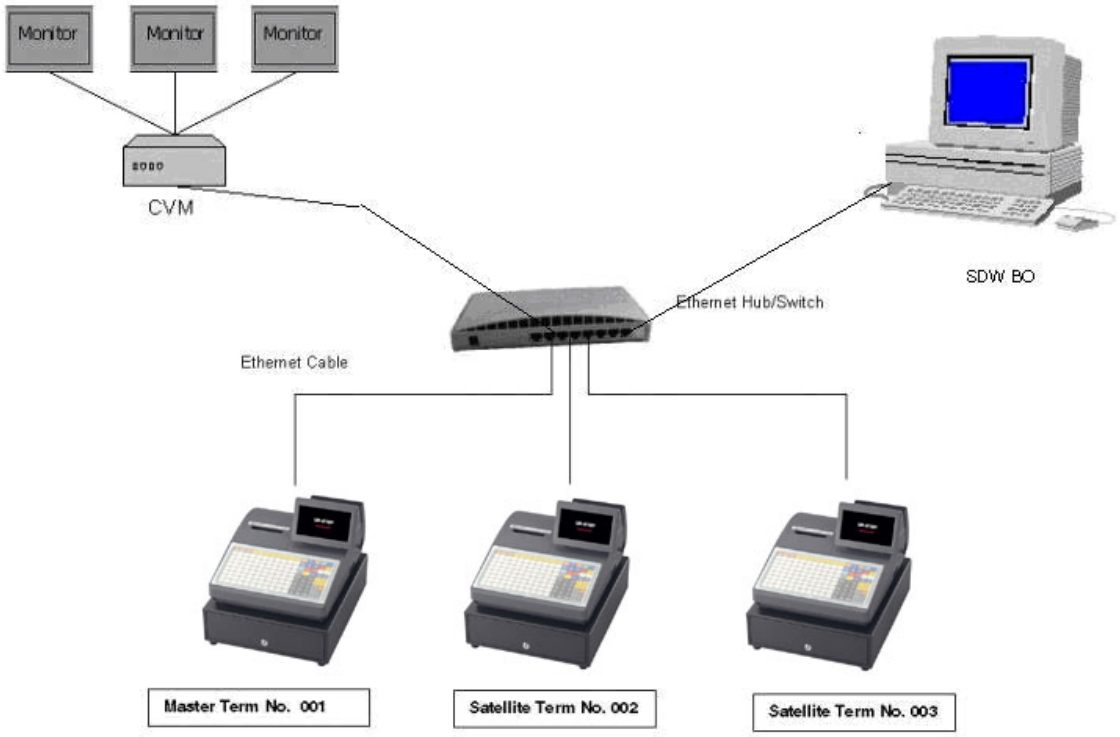
Section-1: Overview

This section has been developed to assist in the implementation of inline operations for the model UP-800 that incorporates an Ethernet topology using some of the TCP/IP suite of protocols.

In simplistic terms, the UP-800 inline system is essentially a Local Area Network (LAN) consisting of point of sale terminals, remote printers, a hub and possibly a personal computer.

For additional information, please refer to the Sharp UP-800 Inter Register Communications Manual.

1. Basic Configuration



2. Inline System General Specification

The basic UP-800 Inline system consists of the following:

Specifications & Requirements		
Number of Terminals	Maximum 32 Terminals	1 Master / 31 Satellites
		1 Satellite can be a Backup Master
Maximum Cable Distance	328 Feet per run (from POS to Hub)	
Additional Requirements	Hub 10Base-T	

3. Inline Function Principles

The INLINE system enables multiple POS terminals to be connected through LAN cables for executing the following tasks:

- Real time transmission between POS terminals (for select data such as Server Sign-on and Guest check data (GLU) entry) **(Master ←→ Satellite)**
- Batch consolidation of sales data between POS terminals **(Satellite → Master)**
- Preset data downloading between POS **(Master → Satellite)**
- Automatic printout of menu data from the POS to kitchen printers **(All → KP)**
- Consolidation of sales data by T-LOG polling **(Satellite → Master)**

NOTE: Real time transmission is used for this inline system. Since the satellites operate by back tasks, care should be exercised for downloading

The following are considered Inline functions:

Inline Functions			
No.	Functions	Description	
1	Downloads	SRV-mode	System Presets
			Free Key Layout
		PGM-mode	All
2	Sales Data Collection	Individual or All Satellites	
		Sales Data Consolidation by the Master	
		Report printing	
3	Centralized Control	Guest Checks/Drive Through operations	
		Servers/Employees	
4	Printer Re-routing	Kitchen Printer	
5	Misc. Functions	Open/Close Store	
		Manager Retry Functions	
6	T-Log polling	Transaction Log analysis	

Server Sign On/Off function:

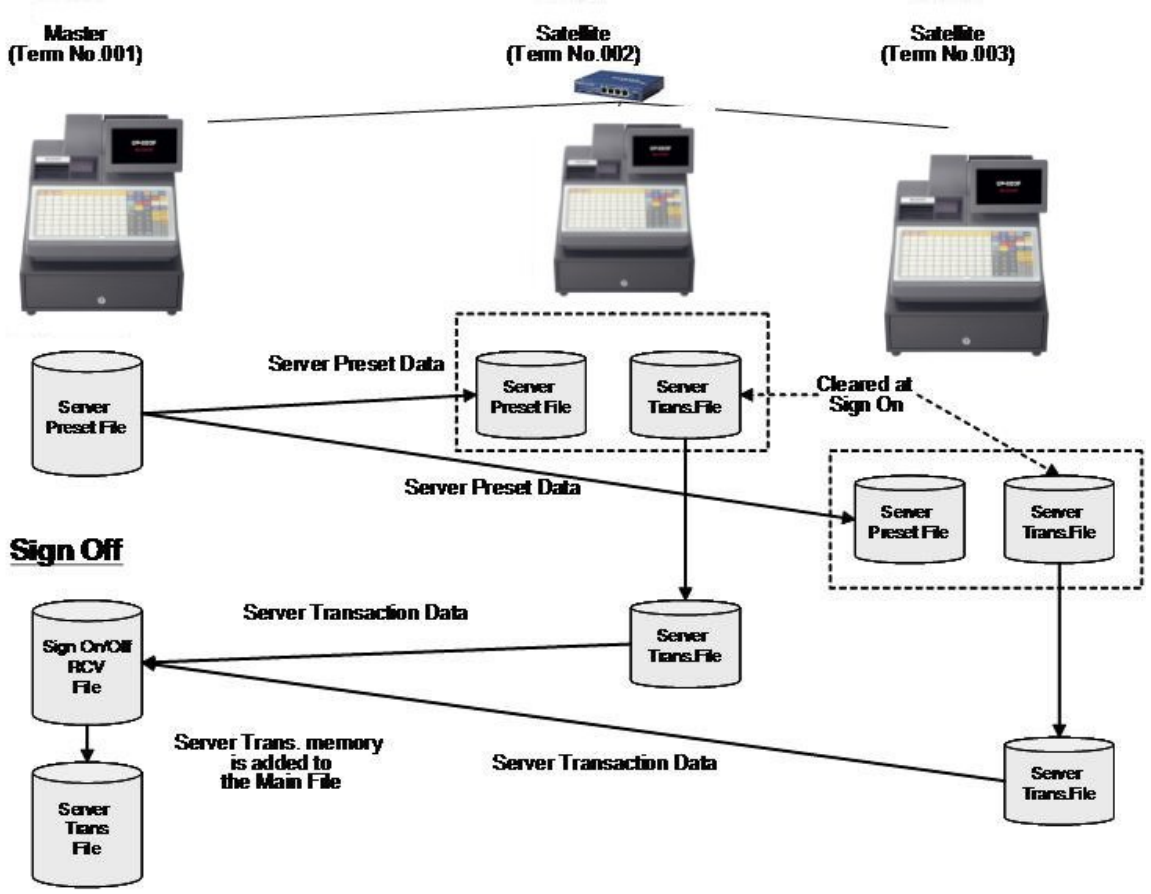
The Master has transaction memories dedicated to ALL Servers and utilizes a RECEIVE BUFFER to process the data.

Server signs ON at a Satellite terminal:

- Its Server Transaction memory is cleared
- Its Server preset memory is received

Server signs OFF at a Satellite Terminal:

- The contents of its Server transaction memory is transferred to the Master
- The transferred data is added into the Transaction memory for the specific Server that signed off



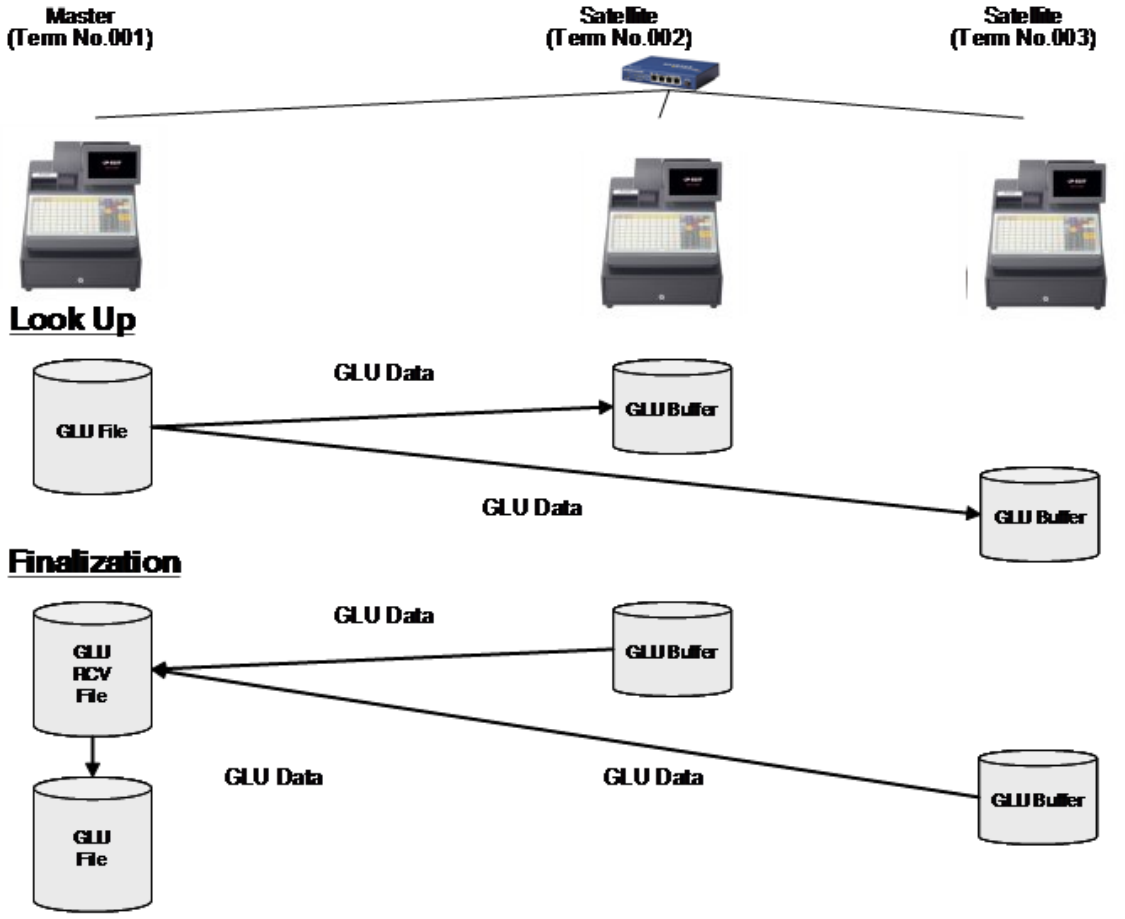
IMPORTANT:
The PROGRAM RESET can cause the system to become unbalanced when performed while Servers remain signed on.

GLU/PBLU Lookup function:

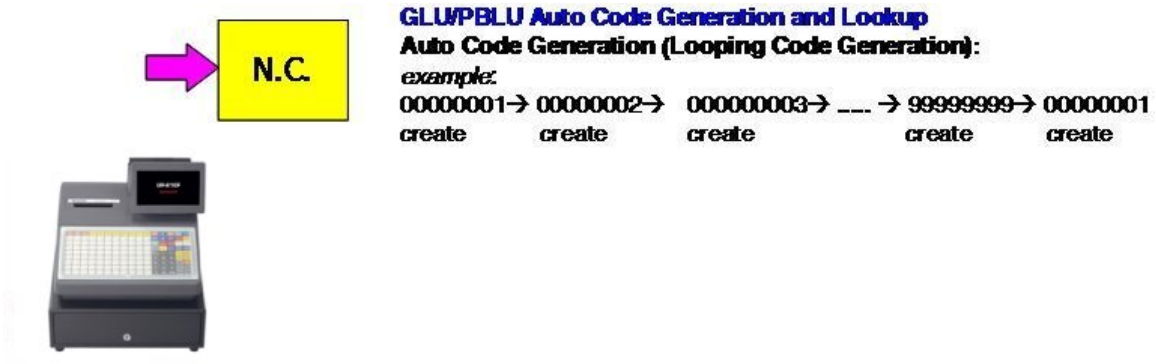
The Inline system offers a "floating" GLU/PBLU (guest check) system allowing any terminal within the system to access the Guest Check data. When the GLU file lookup entry is made in REG or MGR mode at a Satellite, inline communications are initiated with the Master under the following type entries:

- New Order or Reorder – *Look up*
- Payment entry (any Media key) or Temporary finalization ([SERVICE] or [FINAL]) - *Finalization*
- Bill printing
- Bill Transfer/Bill Totalizing (Check-Add)

Inline communications for GLU/PBLU entries are classified as Look up or Finalization:



IMPORTANT:
The above data transfer illustrates why a PROGRAM RESET can cause the system to become unbalanced when performed while Guest Checks are in an open state



GLU/PBLU Auto Code Generation and Lookup

Auto Code Generation (Looping Code Generation):

example:

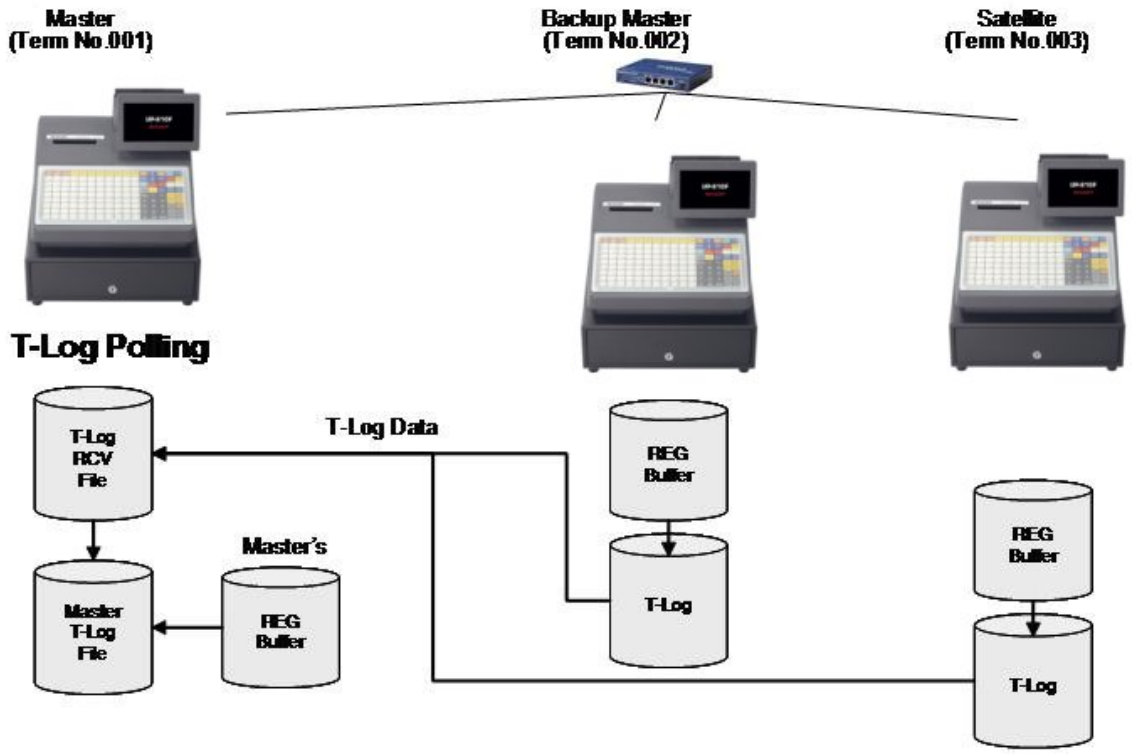
00000001→ create 00000002→ create 00000003→ create ___ → 99999999→ create 00000001 create

T-Log Polling function:

The transaction data in REG and MGR mode can be saved in the T-Log file where the Master consolidates the system's data for further processing.

T-Log Polling – Sequence

① T-Log polling starts by the execution of the Open Store command from the Master
② T-Log polling is stopped by the execution of the Close Store command from the Master
③ T-Log polling and Consolidation occurs upon the Closed Store command
④ When T-Log data exceeds the preset record number (defined in SRV Job#923-A&B), the Satellite will request the Master to poll the T-Log data. The Master starts the T-Log polling of the Satellite and consolidates the data in its own file
⑤ When the Master completes the polling of the 1st Satellite, it will wait for a polling cycle (as defined in SRV Job#923-D) and start the consolidation of the next Satellite,



IMPORTANT:
T-Log data is used to analyze transaction details by software applications such as the Sharp Data Wizard for reporting analytics down to the receipt level

Please consider the general rules listed below when using this feature:

- If the T-Log file becomes full, it is possible to inhibit all further REG-mode operations
- The T-Log full error is printed on the Journal printer if assigned

Section-2: Inline System Connection

Prior to programming, it is important to insure that the hardware connections necessary for each terminal are accomplished. As a basic rule, the following steps may be used for each peripheral device:

1. Connecting the UP-800:

Procedure:

① Connect the specified LAN cable to the Ethernet port marked “LAN”
② Install a ferrite core (part no. RCORF6699BHZZ) within 3 cm of the connector on the connection cable to reduce interference

2. Cabling Specifications:

The below guideline for cabling should be observed when connecting a UP-800 as an Inline terminal:

Cabling Specifications:

Specifications & Requirements	
Maximum Cable Distance	328 Feet per run (from POS to Hub)
Requirements	Hub 10Base-T
	Straight RJ45 CAT 5 Cable UTP 24 AWG with shielded connector.  The Electrical Industries Association (EIA) divides UTP into different *categories* by quality grade (*average wiring grade -AWG).* The rating for each category refers to conductor size, electrical characteristics, and twists per foot. UTP cables consist of four pairs of unshielded copper wires twisted around each other and bundled with resin and coated as a single line. Cable connectors should be 8-core (RJ-45) shielded modular jacks.

Connector Specifications:

IMPORTANT:
The UP-800 LAN port is a shielded-type port that provides a well-grounded connection for external cabling. In order to insure a proper connection it is recommended that shielded RJ-45 connectors be used for external cabling.

Section-3: Inline System Readings

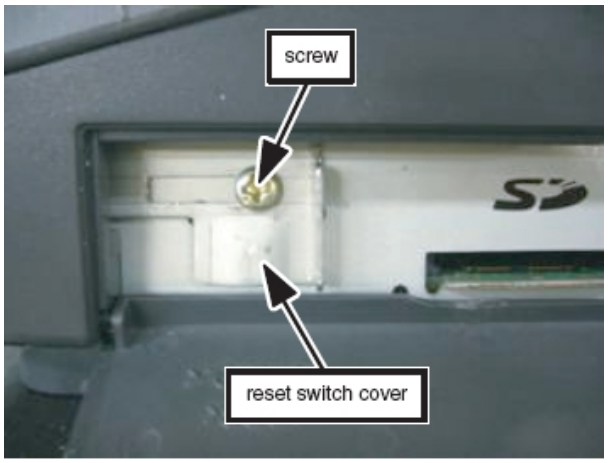
Inline programming consists of SRV and PGM2 – mode-programming jobs, which define the system configuration, which makes up the UP-800 Inline system.

1. Entering the SRV-Mode/Program Reset

To enter SRV Mode programming or to perform a program reset, you must toggle the Reset Switch to the on or forward position and then back to the original off position.

Procedure:

① Unscrew the plate covering the Reset Switch to gain access
② Set the Reset Switch to the "ON" or forward position
③ Set the Reset Switch to the "OFF" or original position.
④ Reattach the plate covering the Reset Switch.



IMPORTANT:
A program reset should NOT be performed at any terminal in an Inline configuration when the system is being used (e.g. Guest Checks are opened or servers are signed on). A safe scenario for performing a Program Reset is to only perform this when the system is in the CLOSE STORE state (executed in the PGM2 Mode)

Please consider the general rules listed below when using this feature:

- A Closed Store command can not be executed when Servers remain signed on at the Satellites

1. SRV-mode Program Readings:

List of SRV-mode Program Reports:

Program Readings		
Mode	Main Menu	Sub Menu
SRV-Mode	1 READING	1 SYSTEM PRESET
		2 DEVICE CONFIG
		3 FREE KEY LAYOUT
		4 FILE
		5 SSP

Procedure – example (System Presets):

(1) Enter the SRV-Mode as previously outlined
(2) Select [1 READING]
(3) Select [1 SYSTEM PRESETS]
(4) Select either [1 DISPLAY] or [2 REPORT PRINTER]

Usage Method: The resulting report will provide the settings for the SRV Job# 902, #920 ~ #925 which will determine how the UP-800 will function.

Please consider the general rules listed below when using this feature:

- The Master List will include the terminal number (IP ADDRESS 4 only) and the machine no. for each terminal in the system
- The Master's terminal no. must be programmed in the Master List (should be first)

2. PGM-mode Program Readings:

List of PGM-mode Program Reports:

Program Readings		
Mode	Main Menu	Sub Menu
PGM2-mode	08 KP READING	
	20 INLINE READING	1 INLINE PRESET
		2 SIGN ON SERVER

Procedure – Inline Preset:

Enter the PGM2-Mode by pressing the [MODE] key and selecting [6 PGM2 MODE] and choosing [1 READING]. Select [20 INLINE READING]

① Select [1 INLINE PRESET]
② Select [1 DISPLAY] to view the reading on the touch-screen or select [2 REPORT PRINTER] to generate a hard copy of this report.

Section-4: Basic Inline System Setup

Each Satellite and a Master is assigned a unique terminal IP Address during the IRC programming. The terminal IP Address acts as the "terminal no." for each machine on the network. The Inline setup has been automated through the IRC SETTING job in SRV-mode, which may be executed as follows:

1. Satellite

Procedure:

Enter the SRV-Mode as outlined earlier

① Select [3 IRC SETTING]
② Select [1 TERMINAL SETTING]
③ Select [1 SATELLITE]
④ Enter the desired IP ADDRESS along with choosing the desired parameters:

- PLU/UPC Centralized/Individual
- PLU/UPC STOCK Centralized/Individual
- GLU Centralized/Individual
- POSITIVE Centralized/Individual
- NEGATIVE Centralized/Individual
- Backup Master: Not/Exist

Assignment Method: The Satellite terminals should be setup prior to the Master. The IRC SETTING job will automatically CREATE or ERASE memory file allocation based on the terminal-type selection.

Please consider the general rules listed below when using this feature:

- A PROGRAM RESET is required upon completion
- A journal printer should be connected in order to see that the available memory is sufficient (memory lacking errors are printed only on the journal printer)

2. Master

Procedure:

Enter the SRV-Mode as outlined earlier

① Select [3 IRC SETTING]
② Select [1 TERMINAL SETTING]
③ Select [2 MASTER]
④ Enter the desired IP ADDRESS along with choosing the desired parameters:

- PLU/UPC Centralized/Individual
- PLU/UPC STOCK Centralized/Individual
- GLU Centralized/Individual
- POSITIVE Centralized/Individual
- NEGATIVE Centralized/Individual
- Backup Master: Not/Exist

⑤ Enter the master's IP ADDRESS 4 followed by its machine no. followed by depressing the [ENTER] key
⑥ Enter IP ADDRESS 4 and machine number for every Satellite in the system followed by depressing the [ENTER] key a second time upon entry of the last Satellite

The Master will display "processing" - automatically executing an Inline Preset download

Assignment Method: The Master terminal should be setup after the Backup Master and Satellite terminals. After the IRC SETTING job has automatically created the necessary memory file allocation, it will automatically download the Inline Presets.

Please consider the general rules listed below when using this feature:

- A PROGRAM RESET is required upon completion
- A journal printer should be connected in order to see that the available memory is sufficient (memory lacking errors are printed only on the journal printer)

3. Memory File Allocation Usage

Once the SRV Job: IRC SETTING has been executed, depending on the type of terminal; memory files are created or erased to establish the Inline system environment for data transfer. The following sections will outline which files exist and how they interact in the Inline configuration.

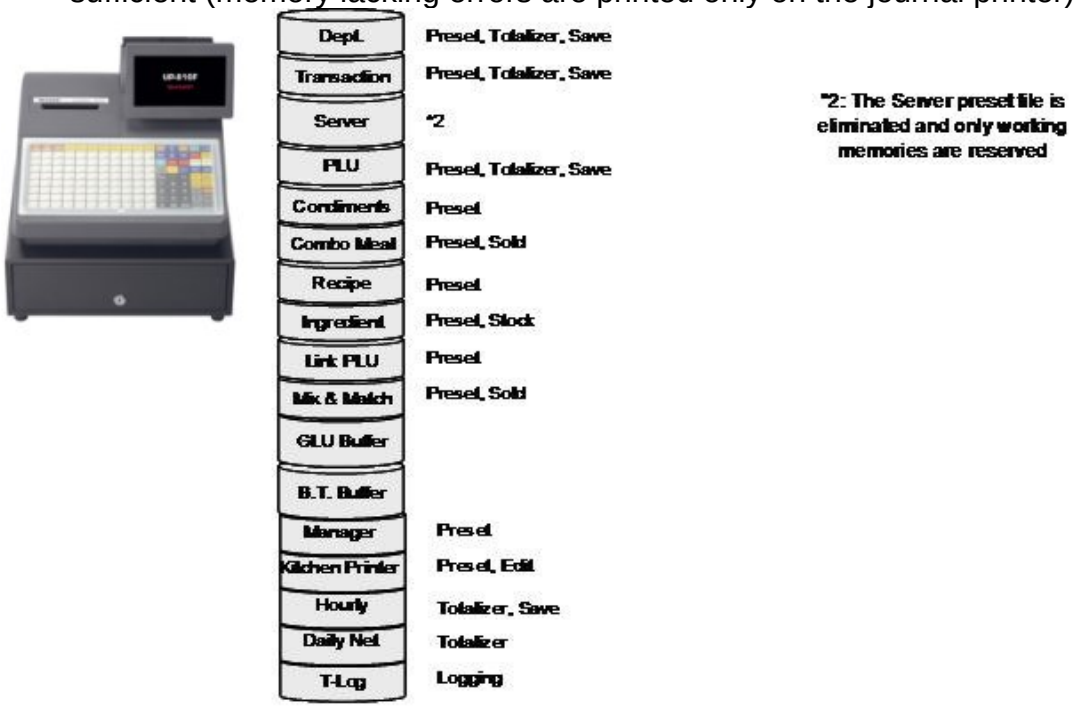
Satellite's File Allocation:

When the type Terminal is a Satellite, selected memory files are erased from the system. The specific files erased or created upon the IRC SETTING job is determined by the setting in System Preset Job# 924 and #925 and which "Parent" file is resident in the UP-800 at the time of execution of the IRC SETTING job. The below chart represents the file allocation when the terminal is a Satellite:

Assignment Method: The Satellite terminal should be setup prior to the Master.

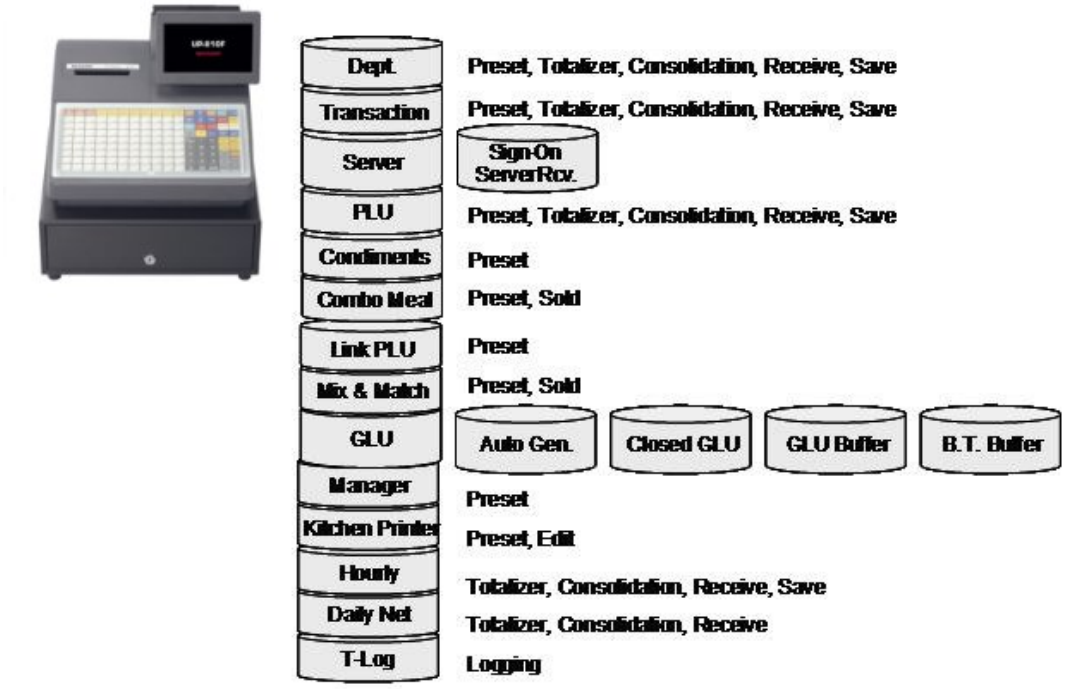
Please consider the general rules listed below when using this feature:

- A PROGRAM RESET is required upon completion
- A journal printer should be connected in order to see that the available memory is sufficient (memory lacking errors are printed only on the journal printer)



Inline System – Master's File Allocation:

When the Type Terminal has been selected as a Master; additional memory files are created. The specific files created upon the IRC SETTING job is determined by the setting in System Preset Job# 924 and #925 and which "Parent" file is resident in the UP-800 at the time of execution of the IRC SETTING job. The below chart represents the file allocation when the terminal is a Master:



Caution:
The Master terminal should be setup after the Satellite terminals. The IRC SETTING job will automatically CREATE memory file allocation based on the terminal-type selection.

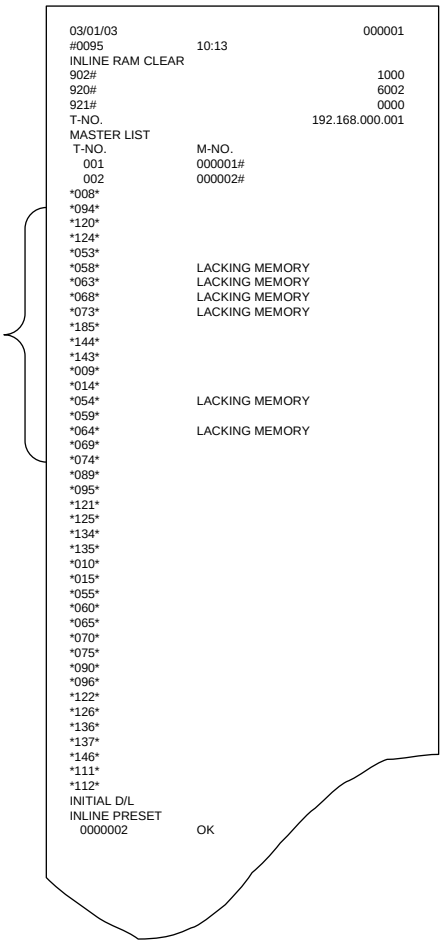
Please consider the general rules listed below when using this feature:

- A PROGRAM RESET is required upon completion
- A journal printer should be connected in order to see that the available memory is sufficient (memory lacking errors are printed only on the journal printer)

IRC Setting related errors

Lacking Memory:

When memory allocation has exceeded the physical capacity, then the “LACKING MEMORY” results upon executing the IRC SETTING job



```
03/01/03                                    000001
#0095                 10:13
INLINE RAM CLEAR
902#                                          1000
920#                                          6002
921#                                          0000
T-NO.                                 192.168.000.001
MASTER LIST
 T-NO.                M-NO.
   001                000001#
   002                000002#
*008*
*094*
*120*
*124*
*053*
*058*                LACKING MEMORY
*063*                LACKING MEMORY
*068*                LACKING MEMORY
*073*                LACKING MEMORY
*185*
*144*
*143*
*009*
*014*
*054*                LACKING MEMORY
*059*
*064*                LACKING MEMORY
*069*
*074*
*089*
*095*
*121*
*125*
*134*
*135*
*010*
*015*
*055*
*060*
*065*
*070*
*075*
*090*
*096*
*122*
*126*
*136*
*137*
*146*
*111*
*112*
INITIAL D/L
INLINE PRESET
  0000002             OK
```

Section-5: IRC Related Programming

IRC setup programming consists of service-mode and PGM-mode programming jobs, which define the UP-800 Inline system capabilities.

Related Programming Jobs: Inline System

SRV Mode:

SRV-Mode Related Jobs		
SRV Menu	Job No.	Description
Setting – System Preset	902-A	Inline operations are Enabled
Setting – System Preset	919-A	Guest Check System / GLU/PBLU Entry is Compulsory for Reorder Entries
Setting – System Preset	920-A, B, C, D	A-Back-Up Master Function is Enabled B-Back-Up Master can perform System Reports & Download Jobs C-Inline Download Jobs are Broadcasted (vs. sending individual) D-PGM2-Mode Programming is allowed at the Satellite Terminal
Setting – System Preset	921-B	GLU System Control-Each Terminal/Centralized (Master)
Setting – System Preset	923-A, B, C, D	A, B- The No. of Records which are requested for the T-Log Polling Function C-T-Log Function is Enabled D-T-Log Polling Cycle (seconds)
Setting – System Preset	924	Inline System Control upon Individual Z2 Resetting Reports / Lock After Ind. Daily Net Z2 Report / Lock after Ind. Trans. Z2 Report
Setting – System Preset	925-A, B, C, D	A-Method of System Trans.-Z Resetting / Only Individual Reset/All data / System Trans.-Z Consolidation Clears Individual memory B-Various Individual report jobs are allowed C-Print format for Consol. Reports D- Allow resetting reports while Server remains signed-on / Allow resetting reports while the store is open

NOTE: These are minimal settings for the terminals. More programming may be necessary as per end user specifications.

Caution:
Making changes to the Systems Presets that are related to Inline System control will require the execution of the IRC SETTING job.

Please consider the general rules listed below when using this feature:

- An IRC SETTING is required after modification to the above SRV Job's
- A PROGRAM RESET is required upon modification

PGM-Mode:

PGM Mode Job Listing				
PGM2 –Menu	Description		Master	Satellite
PGM2	05 Data Clear		☑	☑ limited
PGM2	06 Open Store		☑	☑
PGM2	07 Close Store		☑	☑
PGM2	08 KP Reading		☑	☑
PGM2	09 KP Setting		☑	☑
PGM2	20 Inline Reading	Inline Preset	☑	☑
		Sign On Server	☑	☑
	21 Inline Setting		☑	☑
PGM2	22 Initial D/L		☑	☒
PGM2	23 Maintenance D/L		☑	☒
PGM2	24 Declaration		☑	☒

Inline System – Terminal No. IP Address:

This programming is intended to determine the terminal number of each machine within the Inline system

- TERMINAL NO. IP ADDRESS 1 – 3 must be set the same for every machine within the Inline system
- If TERMINAL NO. IP ADDRESS 4 is programmed at "0", the machine's Inline communications function is disabled
- If two or more machines are assigned the same terminal number within the same Inline system, communications cannot be assured
- TERMINAL NO. IP ADDRESS 4 must be 1 and 254

Assignment Method: When the above guidelines are not observed, when programming the Master's polling list, a LOCK ERROR will result.

1. Inline Setting

The INLINE SETTING programming job is available as a standard preset in case there is the requirement for modification after the initial SRV Mode IRC SETTING job has been executed.

Procedure:

① Enter the PGM2-Mode by pressing the [MODE] key and selecting [6 PGM2 MODE]. Select [21 INLINE SETTING]
② Enter the desired IP ADDRESS along with choosing the desired parameters:
1. System Retry: Enable/Disable
2. Lookup Order: MA/SA

Assignment Method: It is recommended that the when changing the IP ADDRESS 4 setting that this be performed through the IRC SETTING job.

Please consider the general rules listed below when using this feature:

- When changes are made at the Master, the Master List will be prompted (the existing Machine No. will appear at the Terminal No. input)
- The INITIAL D/L: INLINE PRESET job should be performed upon completion

2. Server Sign On Report

Procedure:

Enter the PGM2-Mode by pressing the [MODE] key and selecting [6 PGM2 MODE].
① Select [20 INLINE READING]
② Select [2 SIGN ON SERVER]
③ Select [1 DISPLAY] to view the reading on the touch-screen or select [2 REPORT PRINTER] to generate a hard copy of this report.

Important:
It recommended that the SERVER SIGN ON reading is performed prior to working on an installed system to insure that when entering the SRV mode that the servers have been previously signed off

3. Open Store

The Open Store command is used to control the Inline system. Upon execution at the Master, sales entry and the T-Log polling service to Satellite machines is started.

Procedure:

Enter the PGM2-Mode by pressing the [MODE] key and selecting [6 PGM2 MODE].

1. Select [6 OPEN STORE]

The Open Store command is executed based on the Master's polling list presets

Usage Method: Notification of the Inline System status is printed on the journal printer.

4. Close Store

The Close Store command is used to control the Inline system. Upon execution at the Master, sales entries and the T-Log polling service to Satellite machines is halted.

Procedure:

Enter the PGM2-Mode by pressing the [MODE] key and selecting [6 PGM2 MODE].

1. Select [7 CLOSE STORE]

The Closed Store command is executed based on the Master's polling list presets

Usage Method: Notification of the Inline System status is printed on the journal printer.

Please consider the general rules listed below when using this feature:

- All servers must be signed off prior to executing the Close Store command or the "IS SIGNED ON" error will appear listing which machines have a server signed on to it

Section-6: Remote Printing and Printer Re-routing

This section will assist in the implementation of printer devices used for remote printing, which require connection to an RS232 port and is considered part of the Inline system.

Prior to programming, it is important to insure that the hardware connections necessary for each device are accomplished. As a basic rule, the following steps may be used for each peripheral device:

1. Connecting the UP-800:

Procedure:

① Connect the specified RS232 cable to the desired Channel to be assigned
② Install a ferrite core (part no. RCORF6699BHZZ) within 50 cm of the connector on the connection cable to reduce interference

2. Cabling Specifications:

As a general rule, each peripheral's manufacturer should provide their recommended specifications for cabling to the peripheral device. The below guideline for cabling should be observed when connecting a serial device to the UP-800 terminal:

Cabling Specifications:

RS232 Serial Cable	
Maximum Distance from POS to Printer	50 ft. or less
Type Cable	Twisted Pair
Wire Gauge	24 AWG / Shielded
Belden Number	9540

* The true maximum distance will be determined by the quality of the cable

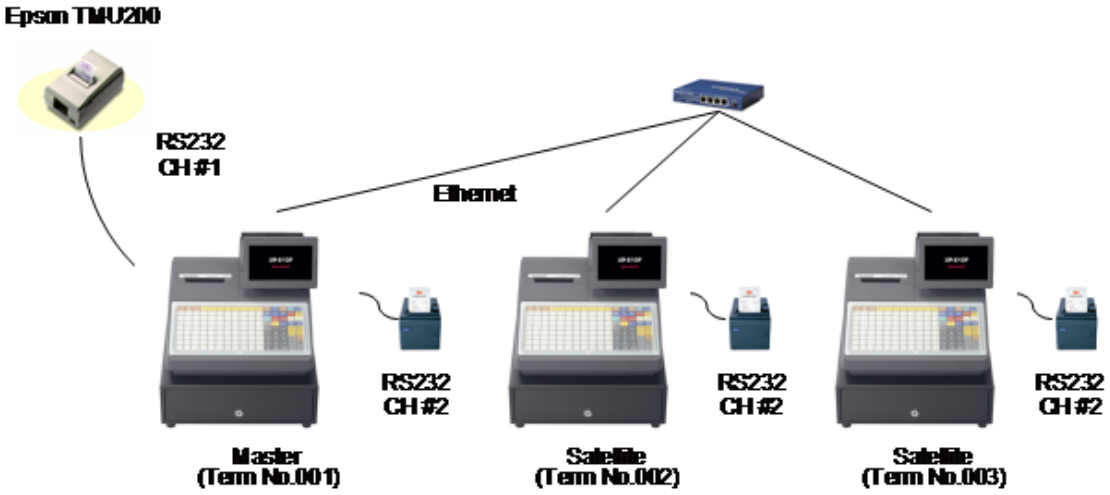
3. Standard D-Sub 9 Pin Connector:

The UP-800 CH1 and CH2 utilizes a standard PC-type COM Port - EIA-574 RS-232 pin out on a DB-9 pin used for Asynchronous Data and **CH3 and CH4** utilizes a Modular Jack RJ45 8 pin type COM Port for RS232. Please refer to the Peripherals section for port and cable pinouts.

4. KP System Overview

A Remote printer (KP) may be added to the UP-800 configuration when item printing to a remote location such as a kitchen or prep area is required. A system overview and example Device assignment assuming that KP #1 is used:

Example KP Configuration:



The following device assignments are considered based on the above configuration:

KP Setup		
Term. No.	Type Terminal	KP #1 Device Assign Setup (Terminal No./Channel No.)
001	Master	Term. No.= 000 / Channel No.= 1
002	1st Satellite	Term. No.= 001 / Channel No.= 1
003	2nd Satellite	Term. No.= 001 / Channel No.= 1

Basically the Satellite's are using the port settings of another terminal. This means that it is possible for the Satellites to utilize their own Channel No. 1 as a direct connection to another device.

5. Standalone with IRC – (Minimum Setting)

Procedure:

Enter the SRV-Mode as outlined earlier

① Select [3 IRC SETTING]
② Select [1 TERMINAL SETTING]
③ Select [4 STD. WITH IRC]
④ Enter the desired IP ADDRESS followed by depressing the [ENTER] key

Assignment Method: The IRC SETTING job will automatically CREATE the memory file allocation based on the KP preset being preset and initialize the I/O control for KP printing.

Please consider the general rules listed below when using this feature:

- A PROGRAM RESET is required upon completion
- A journal printer should be connected in order to see that the available memory is sufficient (memory lacking errors are printed only on the journal printer)

Printer Devices: KP Printing System

The following devices may be considered for KP devices:

Device	Type Printer
KP #1 – KP #9	Epson TM-U200/U230
	Epson TM-U300
	Epson TM-T80
	Epson TM-T85/88(3)
	Epson TM-T88(3)
	ER-01PU
	UP-T80BP

6. KP Printer Device setup

Procedure

Enter the SRV-Mode as outlined earlier
① Select [2 SETTING]
② Select [1 DEVICE CONFIG]
③ Select [08 KP#1] – [16 KP#9]
④ Enter the desired Channel # and Terminal # and choose the desired parameters (Printer Name: Type and Auto Cutter: Yes/No)

⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Assign Sub-Menu

⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE: When "ALL" KP printers are assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method: The CHANNEL NO. assignment is only dedicated at the machine where the printer is physically connected. For the Inline configuration – the TERMINAL and CHANNEL of the machine where the printer is physically located is required.

Please consider the general rules listed below when using this feature:

- A printing device can not be assigned to a Channel where a non-printing device is already assigned (ex: SCALE)

Related Programming Jobs: KP Printing

SRV Mode

SRV Menu / Job#		Description
Setting – System Preset	902-A	Inline operations are ENABLED
Setting – System Preset	918-A, B, C	A: Combo Text print selections
		B: PLU text RED print selections
		C: KP print output selections (grouping like items/double-size)
Setting – System Preset	926-A, B	A: Direct Voids/Past Void printing selections
		B: Refund print selections
Setting – System Preset	929-A	Media Key KP Print Format is Detailed/Summary
Setting – Free Key	950	Function No. 64 [RP SEND]

PGM2 Mode

PGM2 Menu /Job #	Description
PGM2 – KP Setting	KP Setting / Remote printer
	Enable data transmission for Remote printers
	Second Remote printer number assignment
	Remote printer header text setting
	Remote printer formatting
	Chit Receipt print formatting

KP Setting PGM Reading

Procedure

Enter the PGM2-Mode by turning the MA key counter clock wise to the PGM2 position

① Select [08 KP READING]

② Select [1 DISPLAY] to view the reading on the touch-screen or select [2 REPORT PRINTER] to generate a hard copy of this report.

NOTE: The KP may output: Item Text, Quantity, Unit Price, Amount, DEPT/PLU code, Media, Non Add # and Header information.

7. KP Printer Setting Options

The option selections for KP#1 – KP#9 are preset in PGM2 mode.

Second (Backup) Remote Printing:

If an error occurs at the first assigned remote printer, then the system recovers automatically and prints the data at the assigned Second KP (backup).

Duplicate Remote Printer Assignment:

The UP-800 system is capable of assigning two remote printers to any item (department, PLU, and media keys) simultaneously.

KP PGM Presets

Procedure

Enter PGM2-MODE by pressing the [MODE] key and select [6 PGM2 MODE]
① Select [09 KP SETTING]
② Select the KP (1 – 9)
③ Enter the desired parameters followed by depressing the [CASH] key:

1.	Data Print:	ON KP, CHIT or Nothing
2.	Second KP:	0 – 9
3.	Name:	Max. 12 char.
4.	Qty is 1:	Skip/Print
5.	PLU/Dept Code:	Skip/Print
6.	Unit Price:	Skip/Print
7.	Amount:	Skip/Print

Please consider the general rules listed below when using this feature:

- When transmission is selected for “DISABLE” then a CHIT receipt is printed

Procedure (continued)

The CHIT FORMAT settings will be prompted

① Enter the desired parameters followed by the [CASH] key:

1.	Qty is 1:	Skip/Print
2.	PLU/Dept Code:	Skip/Print
3.	Unit Price:	Skip/Print
4.	Amount:	Skip/Print

Assignment Method: When a second KP is not assigned then the data is printed on a CHIT receipt if the Receipt printer is assigned at the machine.

More on KP Assignments

Receipt Chit Assignment:

In addition to the two printer assignments per item, there is also the capability to print those same items in remote printer format at the terminals own R/J printer.

Expeditor Printer Assignment:

The setting is performed through the assigning of a remote printer to a specific media key. This will initiate a "receipt" type order to be printed once the previously assigned media key has concluded sales.

RP Send Function:

The RP Send function allows for the operator to send those items that require longer prep time first, prior to the conclusion of that order entry.

Black and Red Print:

The UP-800 supports two colors for easy viewing of Condiment (zero priced PLU items) instructions, modifiers, and corrections.

Kitchen Printer Recapitulation:

This feature consolidates like items on the remote printer.

Priority Print:

This feature can send items in the programmed order of priority by assigning PLU items to priority groups (1-9).

Section-7: Inline Download Jobs

When modifications are made to the Inline Master, system presets, keyboard and preset (pgm2) data programming, you can distribute the preset data from the master to all satellites in the network.

The purpose is to keep the Inline system synchronized through the usage of program data download jobs (Master → Satellites).

1. Download Methods

There are three options for updating preset data in the UP-800 Inline system:

MODE	Option		Explanation	Intended Use
SRV	Download	SRV Parameter Free Key Layout	Downloading System Presets (900s) and the Free key (950) layout/keyboard	During setup
PGM 2	Initial D/L		Downloading the contents of the file program data of the Master into the file of a Satellite after clearing the file totalizers (Z1/Z2).	During setup
PGM 2	Maintenance D/L		Downloading the contents of the file program data of the Master into the file of a Satellite without clearing the file totalizers (Z1/Z2)	When Preset data is changed

2. SRV Mode Download Jobs

The SRV Mode Download option allows for transmitting the system presets settings and free key layout from the master to the satellite terminals. This option is used typically upon initial setup of the Inline system.

SRV Mode

SRV Menu / Job#	Description
04 Download	1 SRV Parameter
	2 Free Key Layout

Procedure

Enter the SRV-Mode as outlined earlier
① Select [4 DOWN LOAD]
② Select [1 SRV PARAMETER]
③ Select [1 ALL] or [2 MACHINE SELECT] (followed by selecting each machine)
④ Execute the Download Job by depressing the [ENTER] key

Assignment Method: For 2 MACHINE SELECT: choose each machine by toggling the [.] decimal key to change the selection from "NO" to "YES".

Please consider the general rules listed below when using this feature:

- SRV Parameter (System Presets) jobs that may cause system malfunctions will not be downloaded

3. PGM2 Mode Download Jobs

The Initial Download method for distributing preset data transmits the program data from the Master after the file area is cleared. This method is used typically upon initial setup of the Inline system.

PGM2 Mode

PGM2 Mode Menu	Description	Timing
22 INITIAL D/L	01 DEPT – Department	only after Z1 and Z2
	02 DIRECT KEY – Direct Departments and PLU	anytime
	03 PLU – PLU presets	only after Z1 and Z2
	04 PLU Menu Key	anytime
	05 LINK PLU	anytime
	06 CONDIMENT	anytime
	07 MIX&MATCH	anytime
	08 COMBO MEAL	only after Z1 and Z2
	09 UPC NON-PLU	only after Z1 and Z2
	10 TRANSACTION	only after Z1 and Z2
	11 MANAGER	Only after Z1 and Z2
	12 SERV. SIGN OFF	anytime
	13 OPTION	only after Z1 and Z2
	14 DATE/TIME	anytime
	15 LOGO	anytime
	16 DEF. MENU LEVEL	only after Z1 and Z2
	17 TAX	anytime
	18 NEGATIVE#	anytime
	19 POSITIVE#	anytime
	20 MACRO KEY	anytime
	20 FUNCTION KEY	anytime
	22 CAPTURE KEY	anytime
	23 CAPTURE JOB#	only at Initial setup
	24 ONLINE PRESET	anytime
	25 INLINE PRESET	anytime
	26 KP PRESET	anytime
	27 DEVICE CONFIG	only at Initial setup
	28 ALL PGM	only at Initial setup

Procedure

Enter PGM2-MODE by pressing the [MODE] key and select [6 PGM2 MODE]
① Select [22 INITIAL D/L]
② Select the desired file data (and their parameters) to be downloaded
③ Choose the Satellites to receive the file data (All/by each machine)

Caution
INITIAL D/L Job #27 ALL PGM will clear the Satellite's totals if executed prior to performing the Z1 or Z2 reports

Maintenance Download Jobs

The Maintenance Download method for distributing preset data transmits the program data from the Master without clearing the file area. This method is used when the preset data is modified after the initial installation.

Job #	Description	Timing
MAINTENANCE D/L	01 DEPT	anytime
	02 DEPT PRICE	anytime
	03 DEPT CVM DATA	anytime
	04 PLU/UPC	anytime
	05 PLU PRICE	anytime
	06 PLU CVM DATA	anytime
	07 LINK PLU	anytime
	08 CONDIMENT	anytime
	09 MIX&MATCH	anytime
	10 COMBO MEAL	anytime
	11 COMBO CVM DATA	anytime
	12 TRANSACTION	anytime
	13 POSITIVE#	anytime

Procedure

Enter PGM2-MODE by pressing the [MODE] key and select [6 PGM2 MODE]
① Select [23 MAINTENANCE D/L]
② Select the desired file data (and their parameters) to be downloaded
③ Choose the Satellites to receive the file data (All/by each machine)

Assignment Method: For 2 MACHINE SELECT: choose each machine by toggling the [.] decimal key to change the selection from "NO" to "YES".

More on Download Jobs

① PGM download for PLU/UPC do not include Stock data.
② PGM download for Option includes the following:

- Optional feature presets
- Scale preset
- Validation presets
- Hourly report format presets
- Stack report presets
- Secret code presets (PGM mode)
- Auto key presets
- Location presets
- GLU range
- The Logo file includes logo text, bill logo, dept, group text, hourly group text, currency, and descriptor.
- PGM download jobs for PLU/UPC include Link PLU and Set PLU presets

NOTE: Initial D/L All PGM should not be performed when totals exist in the system. The totalizers of the receiving satellite are erased. Performed individual initial D/L jobs will result in a non-reset error.

Section-8: Data Clear Jobs

In the event a problem has occurred within the Inline system, it is possible to manually clear selected status flags and memories to

PGM2 Mode – Data Clear Jobs:

PGM 2 Mode Menu	PGM2 –Mode Programming	Master	Satellite
05 DATA CLEAR	1 T-LOG	☑	☑
	2 CAPTURE DATA	☑	☑
	3 TRANSACTION	☑	☑
	4 HOURLY	☑	☑
	5 DAILY NET	☑	☑
	6 SIGN ON FLAG	☑	☒
	7 GLU USED FLAG	☑	☒
	8 OFFLINE ACCT	☑	☑
	9 E.JOURNAL	☑	☑

Procedure

Enter PGM2-MODE by pressing the [MODE] key and select [6 PGM2 MODE]
① Select [05 DATA CLEAR]
② Select the desired memory to be cleared followed by depressing the [ENTER] key

Caution
It is recommended to use the MANUAL CLEAR option as a last resort as they will cause the system to become unbalanced.

Assignment Method: It is recommended to restrict the MANUAL CLEAR jobs from unsupervised end-user usage.

Please consider the general rules listed below when using this feature:

- The results of the MANUAL CLEAR job are printed on the Journal printer
- The TRANSACTION manual clear job clears both the Department and Transaction memories

Section-9: System Backup Master

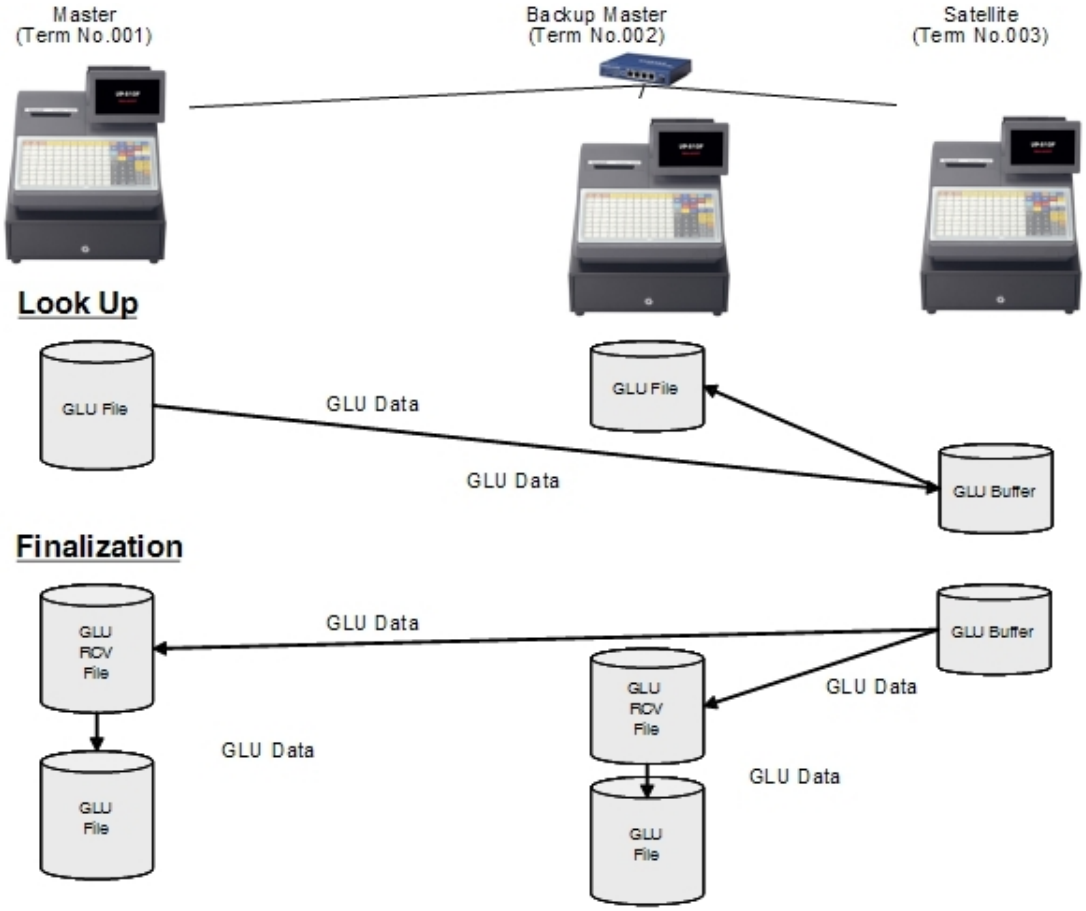
The UP-800's Backup Master function is performed by one of the Satellites designated as a Backup Master that can execute the Master's functions when trouble exists.

The functions that a Backup Master may perform are as follows:

- GLU Function: File lookup and Uploading, System Reports and Download Jobs

1 Backup Master GLU/PBLU Lookup function:

- All Satellites upload Guest Check data to the Master
- The Master receives the data, processes it and sends it back to the Satellite
- The Satellite then sends the data to the Backup Master
- The Backup Master receives the data, processes it and sends it back to the Satellite



IMPORTANT:
The above data transfer is only possible when SRV Job#920-B has enabled the Backup Master to provide this function (= +4)

2 Inline System Setup – with a Backup Master

Please note that the SRV mode IRC SETTING job is combined with SYSTEM PRESET settings to enable a Backup Master that can provide the functions supported by the Master.

Satellite – Minimum procedure

Procedure:

Enter the SRV-Mode as outlined earlier

① Select [2 SETTING]
② Select [1 SYSTEM PRESET]
③ Set SRV#920 = 74x1 followed by [ENTER] key and then [CASH] to return to the SRV SETTING menu
④ Depress the [CANCEL] key to return to the SRV Main Menu
⑤ Select [3 IRC SETTING]
⑥ Select [1 TERMINAL SETTING]
⑦ Select [1 SATELLITE]
⑧ Enter the desired IP ADDRESS along with choosing the desired parameters:

- PLU/UPC Centralized/Individual
- PLU/UPC STOCK Centralized/Individual
- GLU Centralized/Individual
- POSITIVE Centralized/Individual
- NEGATIVE Centralized/Individual
- Backup Master: Not/Exist

⑨ Depress the [CASH] key to complete the IRC SETTING

IMPORTANT:
A PROGRAM RESET should be performed at the completion of the IRC SETTING job

Backup Master – Minimum procedure

Procedure:

Enter the SRV-Mode as outlined earlier

① Select [2 SETTING]
② Select [SYSTEM PRESET]
③ Set SRV#920 = 7413 followed by [ENTER] key and then [CASH] to return to the SRV SETTING menu
④ Depress the [CANCEL] key to return to the SRV Main Menu
⑤ Select [3 IRC SETTING]
⑥ Select [1 TERMINAL SETTING]
⑦ Select [3 BACKUP MASTER]
⑧ Enter the desired IP ADDRESS along with choosing the desired parameters:

- PLU/UPC Centralized/Individual
- PLU/UPC STOCK Centralized/Individual
- GLU Centralized/Individual
- POSITIVE Centralized/Individual
- NEGATIVE Centralized/Individual
- Backup Master: Not/Exist

⑨ Depress the [CASH] key to complete the IRC SETTING

IMPORTANT:
A PROGRAM RESET should be performed at the completion of the IRC SETTING job

Master – Minimum procedure

The assumption is that the machine, which is designated as the Master, has a Standalone program defined prior to the following procedure.

Procedure:

Enter the SRV-Mode as outlined in Section -3

① Select [2 SYSTEM PRESET]
② Select [1 TERMINAL SETTING]
③ Set SRV#920 = 7452 followed by [ENTER] key and then [CASH] to return to the SRV SETTING menu
④ Depress the [CANCEL] key to return to the SRV Main Menu
⑤ Select [3 IRC SETTING]
⑥ Select [1 TERMINAL SETTING]
⑦ Select [2 MASTER]
⑧ Enter the desired IP ADDRESS along with choosing the desired parameters:

- PLU/UPC Centralized/Individual
- PLU/UPC STOCK Centralized/Individual
- GLU Centralized/Individual
- POSITIVE Centralized/Individual
- NEGATIVE Centralized/Individual
- Backup Master: Not/Exist

⑨ Depress the [CASH] key to continue the IRC SETTING preset for the Master List

IMPORTANT:
A PROGRAM RESET should be performed at the completion of the IRC SETTING job

Procedure (cont.):

⑩ Enter the IP ADDRESS4 for the Master
⑪ Enter the MACHINE No. for the Master
⑫ Repeat steps 10 and 11 for every terminal in the Inline system and depress [CASH] after the entry of the last terminal's machine number has been entered

The entry of the Backup Master's machine no. will appear

⑬ Enter the BMA MACHINE NO. followed by depressing the [CASH] key

The Master will finalize the IRC SETTING will automatically continue and execute Inline Presets download - **Perform a PROGRAM RESET**

While in the SRV MODE main menu, select [4 DOWNLOAD] and download [1 SRV PARAMETER] and [2 FREE KEY] if required and depress [CANCEL] to exit SRV mode

Enter the PGM2-Mode by pressing the [MODE] key and selecting [6 PGM2 MODE]

① Select [24 DECLARATION]
② Select [2 RECOVER DECLARE] to send the GLU/Server data to the Backup Master

IMPORTANT:
A PROGRAM RESET should be performed at the completion of the IRC SETTING job

Completing the Inline System:

① Select [22 INITIAL D/L]
② Select [28 ALL PGM] and select [1 ALL] to initiate downloading to all machines

While in PGM2 MODE, select [6 OPEN STORE] prior to going to REG mode

Related Programming Jobs: Backup Master

SRV Mode

SRV Mode Menu / Job#		Description
Setting – System Preset	920-A, B, C, D	Inline Terminal setting
Setting - File		No. 38: Server
		No. 42: GLU/PBLU (All)
		No. 43: Closed GLU
		No. 44: Auto Generate

PGM2 Mode

PGM2 Mode Menu	PGM2 –Mode Programming	Master	Backup Master	Satellite
24 DECLARATION	1 Master Declaration	☑	☑	☒
	2 Recover Declaration	☑	☑	☒

IMPORTANT:
To insure that the Backup Master system is fully functional when a Master breaks down, it is recommended to make sure that the physical printers required for operation be connected to each terminal separately

Please consider the general rules listed below when using this feature:

- The printer rerouting function for the Receipt, Journal and Report printers should be minimized when Backup Master is required
- If the terminal breaks down where the Receipt, Journal or Report printer are physically attached – Printer related errors will result

Master Declaration – Backup Master and Master

Assignment Method: This operation is enabled for use when the Master or Backup Master breaks down.

Please consider the general rules listed below when using this feature:

- Master Declaration is used at the Backup Master when the Master has failed communications.
- Master Declaration at the Master is used when the Backup Master has failed communication
- Completion of the Master Declaration executes the following processes:
  - Inhibits GLU data communications
  - Error GLU data and Error Server data is collected
  - Notification of the Master/Backup Master breakdown situation to the Satellites
    - When done at the Master – the Satellites do not update the Backup Master
    - When done at the Backup Master – Satellites do not update the Master
  - Restarts the GLU data communications when completed

Recovery Declaration – Backup Master and Master

Assignment Method: This operation is enabled for use when the Master or Backup Master is recovered.

Please consider the general rules listed below when using this feature:

- Recover Declaration is performed upon initial setup of the Inline system
- Recover Declaration is used at the Backup Master when the Master has recovered
- Recover Declaration is used at the Master when the Backup Master has recovered
- Completion of the Master Declaration executes the following processes:
    - Inhibits GLU data communications
    - Error GLU data and Error Server data is collected
    - Notification of the Master/Backup Master breakdown situation to the Satellites
        - When done at the Master – the Satellites will begin to update the Backup Master
        - When done at the Backup Master – Satellites will begin to update the Master
    - Restarts the GLU data communications when completed

IMPORTANT:
When preset programming for Servers, Employees and Guest Checks is "modified" it is mandatory to synchronize the Backup Master by executing the RECOVERY DECLARE job

Section-10: Inline System Report List

1. Inline System Reports – Master and Backup Master

Report Name	Mode *1						Data for Reading
	OP X/Z		X1/Z1		X2/Z2		
	X	Z	X1	Z1	X2	Z2	
DEPT			☑	☑	☑	☑	---
DEPT.IND.GROUP			☑		☑		GROUP No.
DEPT.GROUP TOTAL			☑		☑		---
MARK DOWN FOR DEPT			☑		☑		---
PLU BY RANGE			☑	☑	☑	☑	PLU CODE
PLU BY DEPT			☑	☑	☑	☑	DEPT CODE
PLU IND.GROUP TOTAL			☑		☑		GROUP No.
PLU GROUP TOTAL			☑		☑		---
PLU STOCK			☑				PLU CODE
PLU COST			☑		☑		PLU CODE
PLU TOP 20			☑		☑		AMOUNT/ QTY
PLU ZERO SALES			☑		☑		ALL
PLU ZERO SALES DEPT			☑		☑		DEPT CODE
PLU MINIMUM STOCK			☑				---
PLU GROUP BY HOURLY			☑	☑			---
TRANSACTION			☑	☑	☑	☑	---
CID			☑				---
TAX			☑		☑		---
ALL SERVER			☑	☑	☑	☑	---
IND.SERVER	☑	☑	☑	☑	☑	☑	Note: *2
EMPLOYEE			☑		☑	☑	Note: *2
EMPLOYEE ADJUSTEMNT					☑		Employee No./*2
EMPLOYEE ACTIVE STATUS			☑				Employee No./*2
EMPLOYEE SALES					☑	☑	Detailed
EMPLOYEE SALES					☑	☑	All
HOURLY (ALL)			☑	☑			---
RANGE			☑				---
LABOR COST %			☑				---
EMPLOYEE OVERTIME			☑		☑	☑	Employee No.
DAILY NET					☑	☑	
INGREDIENT STOCK			☑				Ingredient Code
GLU			☑	☑			Note: *2
GLU BY SERVER			☑	☑			---
CLOSED GLU			☑	☑			Note: *2
CLOSED GLU BY SERVER			☑	☑			---
DRIVE THRU			☑	☑			Note: *2
DRIVE THRU BY SERVER			☑	☑			---
CLOSED DRIVE THRU			☑	☑			Note: *2
CLOSED DRIVE THRU BY SERVER			☑	☑			---
DRIVE THRU SERVICE TIME			☑	☑	☑	☑	---
STACKED REPORT			☑	☑	☑	☑	---
RESET CLEAR				☑		☑	---

Assignment Method: All reports are printed on the Report printer if assigned as a device.

Please consider the general rules listed below when taking reports:

- To “STOP” a report from printing you may “cancel” it by depressing the [@/FOR] key
- When the printing is stopped, the following occurs:
  - Z-counters are incremented
  - When stopped during Z-Reports, the Memory is not reset
- When the Master has consolidated the data, the report can not be stopped

NOTE:
*1: X1: Daily X Report, Z1: Daily Z Report, X2: Periodic X Report, Z2: Periodic Z Report
*2: The Range can be specified by entering Start and End numbers (codes)

2. Individual Reports – All Machines

Report Name	Mode *1						Data for Reading
	OP X/Z		X1/Z1		X2/Z2		
	X	Z	X1	Z1	X2	Z2	
DEPT			☑	☑	☑	☑	---
DEPT.IND.GROUP			☑		☑		GROUP No.
DEPT.GROUP TOTAL			☑		☑		---
MARK DOWN FOR DEPT			☑		☑		---
PLU BY RANGE			☑	☑	☑	☑	PLU CODE
PLU PICK UP			☑	☑	☑	☑	
PLU BY DEPT			☑	☑	☑	☑	DEPT CODE
PLU IND.GROUP TOTAL			☑		☑		GROUP No.
PLU GROUP TOTAL			☑		☑		---
PLU STOCK			☑				PLU CODE
PLU COST			☑				PLU CODE
PLU STOCK PICK			☑		☑		AMOUNT/ QTY
PLU ZERO SALES			☑		☑		ALL
PLU ZERO SALES DEPT			☑		☑		DEPT CODE
PLU MINIMUM STOCK			☑				---
PLU CATEGORY			☑	☑			---
TRANSACTION			☑	☑	☑	☑	---
DYNAMIC UPC			☑	☑	☑	☑	
D-UPC PICK UP			☑	☑	☑	☑	
D-UPC By Dept			☑	☑	☑	☑	
CID			☑		☑		---
TAX			☑		☑		---
POSITIVE CHECK			☑				
ALL SERVER			☑	☑	☑	☑	---
IND.SERVER	☑	☑	☑	☑	☑	☑	Note: *2
HOURLY (ALL)			☑	☑			---
RANGE			☑				---
DAILY NET					☑	☑	
GLU			☑	☑			Note: *2
GLU BY SERVER			☑	☑			---
CLOSED GLU			☑	☑			Note: *2
CLOSED GLU BY SERVER			☑	☑			---
CUSTOMER SALES 1					☑	☑	Note: *2
CUSTOMER SALES 2					☑	☑	---
CUSTOMER BY AMT					☑		Note: *2
CHARGE ACCOUNT					☑		---
NO ACCESS UPC			☑	☑			---
NO ACCESS CUSTOM					☑	☑	---
CUSTOMER DELETE						☑	
STACKED REPORT					☑	☑	

Assignment Method: All reports are printed on the Report printer if assigned as a device.

Please consider the general rules listed below when taking reports:

- To “STOP” a report from printing you may “cancel” it by depressing the [@/FOR] key
- When the printing is stopped, the following occurs:
  - Z-counters are incremented
  - When stopped during Z-Reports, the Memory is not reset
- When the Master has consolidated the data, the report can not be stopped

NOTE:
*1: X1: Daily X Report, Z1: Daily Z Report, X2: Periodic X Report, Z2: Periodic Z Report
*2: The Range can be specified by entering Start and End numbers (codes)

Section-11: Error Handling

When an error in the Inline system occurs, a corresponding message is displayed. When troubleshooting an Inline system, please refer to the Error Message table below:

1. Types of Errors

General Error Messages:

List of error messages

Error messages	Description
RETRY?	• This message prompts you to retry communication with a machine when the communication does not end successfully. *
BUSY	• The target machine is busy.
CODE NOT FREE	• The specified server has signed on at another machine.
	• The entered GLU/PBLU code is in use.
IS SIGNED ON	• IRC server sign-on error (when full server resetting is executed).
LACKING MEMORY	• The GLU code, drive-through code or related file memory is not enough.
LINE ERROR	• Transmission error
MEMORY FULL	• The satellite's memory is overflowed.
NO RECORD	• The entered server code does not exist in the master.
NO AUTHORITY	• The server who entered a GLU/PBLU code was not authorized.
NON RESET	• IRC initial downloading before resetting
NO REPLY/BMA	• The back-up master doesn't reply to the request.
NO REPLY/MA	• The master doesn't reply to the request.
OFF LINE	• Remote printer off-line error
POWER OFF	• The target machine is turned off.
SYSTEM CLOSED	• Entry is attempted in closed store state. After entering the PGM2 mode from the mode selection window, make OPEN STORE operation.
T-LOG FULL	• T-LOG buffer is full.
UNDIFINED CODE	• The specified server code is not present in the master list.
	• The entered GLU/PBLU code is not listed.

More on Type Errors

In the event you have a different ROM version between the Master and the Satellites it is probable that you will experience a [TYPE ERROR].

This will be displayed when performing the PGM2 [INITIAL D/L] – [21 ALL PGM] download function.

Server Sign On/Off Error Processing

There are two methods of error handling for the Server function. When an error occurs during the Server sign-on a “Lock” error will result. When there is an error upon Server sign-off process the Manager Function is initiated.

Method-1: Lock Errors (at Sign On)

List of Server Sign On Lock Errors	
Error Message	Description
NO RECORD	The specified Server code is not present in the Master
IRC BUSY	The Master is busy – can not respond within the time out period
IRC ERROR	Transmission error

Method-2: System Retry (at Sign Off)

If the Master is busy or out of service when a Satellite attempts to send Server data to the Master, the Satellite display the Manager Retry error message and will wait for input prior to proceeding.

RETRY? Error:

① To “retry” the transmission, select [1 RETRY]
② To “terminate” the transmission select [2 ABORT]

This causes the Satellite to place the Server’s data in an error-save file and terminates that transaction.

Thereafter ordinary sales operations can be performed at the Satellite, as that server will remain “on” the specific terminal until the Master or communications are recovered.

Assignment Method: Once the Master is recovered, the Server data is updated automatically.

Please consider the general rules listed below when using this feature:

- It is not recommended to perform a PROGRAM RESET at a Satellite when the Master experiences problems preventing communications

RETRY? Error (Backup Master):

① To “retry” the transmission, select [1 RETRY]
② To “terminate” the transmission select [2 ABORT]

IMPORTANT:

When in an Inline system with a Backup Master, the recommended selection should be to depress [ABORT] followed by the execution of the [MASTER DECLARATION]. This causes the Satellite to place the Server/GLU data in an error-save file and terminates that transaction. Thereafter when the Master Declaration is performed, the data is recovered.

Guest Check Lookup/Drive Thru Lookup Error Processing

The error processing for the GLU/PBLU and Drive Through guest check operation is the same. There are two methods of error handling for the guest check functions. When an error occurs during the "look up" function a "Lock" error will result. When there is an error upon finalization process the Manager Function is initiated.

Method-1: Lock Errors (at Look Up)

List of Guest Check Lookup Lock Errors	
Error Message	Description
NO RECORD	The GLU code is not entered (listed) at the Master
NOT FREE	The GLU code is already in use
MEMORY FULL	There is not enough available memory in the GLU file
NO AUTHORITY	The Server entering the GLU-code does not have permission to open that code
IRC BUSY	The Master is busy – can not respond within the time out period
IRC ERROR	Transmission error

Method-2: Retry (at Finalization)

If the Master is busy or out of service when a Satellite attempts to send guest check data to the Master, the Satellite display the Manager Retry error message and will wait for input prior to proceeding.

RETRY? Error:

① To "retry" the transmission, press the [1 RETRY] key
② To "terminate" the transmission depress the [2 ABORT] key and the error condition will be displayed.

This causes the Satellite to place the guest check data in an error-save file and terminates that transaction.

Thereafter ordinary sales operations can be performed at the Satellite, as that server will remain "on" the specific terminal until the Master or communications are recovered.

Guest check operation is restricted to the GLU code, which has been stored in the error-save file since the look up function to the Master is not possible.

Assignment Method: Once the Master is recovered, reopen the GLU (xxxxxxxx → [PBAL]) and finalize normally.

Please consider the general rules listed below when using this feature:

- It is possible to reopen the GLU to add items and finalize through the [SERVICE] or [FINAL] key

KP Printer Error Processing

The error processing for print data that is output to a kitchen printer using the Inline system will result in initiating the Manager Function or some related error depending on the circumstances at the time of sending the data.

Retry (at KP printing)

If the terminal where the printer is connected is busy or out of service when the sending machine attempts to KP print data to another terminal, the sending machine may display the Manager Retry error message and will wait for input prior to proceeding.

RETRY? Error:

① To “retry” the transmission, press the [1RETRY?] key
② To “terminate” the transmission depress the [2 ABORT] key and the error condition will be displayed.

When [2 ABORT] is selected, based on the system setup, the KP data will be printed at the secondary KP assigned or (if a Receipt printer has been assigned), the data will be printed at as a “CHIT” receipt.

Other Errors (at KP printing)

Based on the physical state of the Inline system, other errors may result based on where the trouble is within the system.

No power at Printer- Check Connection Error:

① To “retry” the transmission, press the [1 RETRY?] key
② To “terminate” the transmission depress the [2 ABORT] key

No power at Terminal – Busy Error:

① To “retry” the transmission, press the [1 RETRY?] key
② To “terminate” the transmission depress the [2 ABORT] key

Caution
It is recommended to program a Receipt printer as part of the secondary printer to alert the Cashier that there is a problem somewhere in the system. This also provides a method to continue food prep when the system has troubles.

2. Manager Retry Function

The Manager Retry function is selected as “Enabled” or “Disabled” and related to Inline transmissions and the T-Log polling functions. This function is summarized as follows:

List of Manager Retry Settings		
Category	Description	Default Setting
System Retry	Disable/Enable	Enable

Procedure:

Enter the PGM2-Mode by turning the MA key counter clock wise to the PGM2 position

① Select [21 INLINE SETTING]

② Select the setting for “SYSTEM RETRY” (ENABLE/DISABLE) followed by depressing the [CASH]

The prompt for the Master List entry will follow and entering the terminal number will automatically display the associated.

Assignment Method: The MGR RETRY function should be enabled (not disabled) to alert the operator of trouble within the Inline system.

Please consider the general rules listed below when using this feature:

- When the SYSTEM RETRY is set as DISABLE, the transmission job will terminate without notification to the operator

Glossary of Terms

This network of point of sale systems and printers is controlled by a Master terminal. The master is analogous to the file server in a PC LAN. The Master unit controls the issuing of guest check numbers, stores sales data, and coordinates communication between all nodes (Satellites) connected to the inline system.

The UP-800 inline system also provides for a backup to the Master called the Backup Master. The Backup Master's main function is to take over the jobs of the Master unit in the event of the Master unit failing.

The satellites receive data from the master and report back sales data, guest check information, and preset data look-up requests.

The final components of the UP-800 inline system are the remote printers (or kitchen printers). The remote printers are output devices only but can communicate error codes and other status information of the network.

Each satellite, each printer, the Backup Master, and the Master are assigned a unique terminal ID # during the IRC programming. The terminal ID acts as the "address" for each device on the network. When data is sent on the network, the data are contained in an entity called a frame (packet).

Ethernet is a bus or star bus based technology that uses base band signaling and CSMA/CD (*carrier sense multiple access with collision detection*) to arbitrate network access. The Ethernet medium is passive, which means that the terminal drives the signals over the network. The UP-800 Point of Sale systems are connected in the star topology which means each terminal has its own connection directly to the hub.

Section - 6: Communications

Section-1: Overview

This section has been developed to assist in the implementation of a Back Office Application, which requires connection to an RS232 port or TCP/IP external host devices.

The following devices are considered peripheral devices:

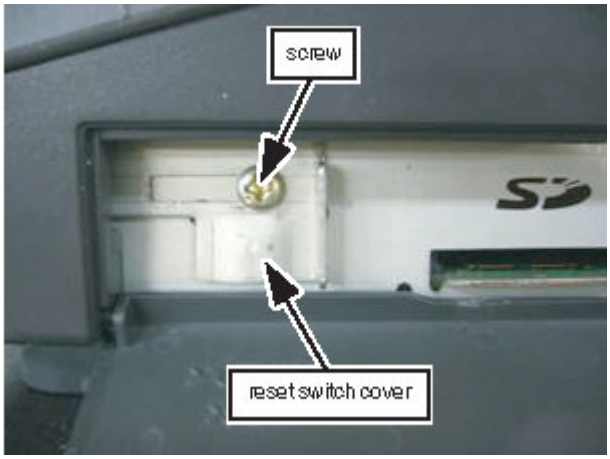
Communication Functions		
No.	Function	Abbreviation
1	Back Office Communications	Online
2	Manager Work Station	MWS
3	Credit Card Authorization	See Section - 7

1. Entering SRV-Mode/Program Reset

To enter SRV Mode programming or to perform a program reset, you must toggle the Reset Switch to the on or forward position and then back to the original off position.

Procedure:

① Unscrew the plate covering the Reset Switch to gain access
② Set the Reset Switch to the “ON” or forward position
③ Set the Reset Switch to the “OFF” or original position.
④ Reattach the plate covering the Reset Switch.



The SRV-mode Main Menu will appear:

1. SRV-mode Program Readings:

List of SRV-mode Program Reports:

Device Assignment		
Mode	Main Menu	Sub Menu
SRV-Mode	1 READING	2 DEVICE CONFIG

Enter the SRV-Mode as outlined earlier
① Select [1 READING]
② Select [2 DEVICE CONFIG]

Caution:
When adding any communication functions, it is critical to note that peripheral devices cannot be assigned to the same channel no. Please verify that multiple type devices are not assigned to the same channel no.

Example:
- Printers **"CAN"** share the same Channel No. Assignment
- ONLINE **"CANNOT"** share the same Channel No. Assignment with Printers

2. PGM-mode Program Readings:

List of PGM2-mode Program Reports:

Communications List	
Mode	Main Menu
PGM2-Mode	10 ONLINE READING
	18 MWS READING

Procedure – Online:

Enter the PGM2-Mode by pressing [MODE] and selecting [6 PGM2 MODE]
① Select [10 ONLINE READING]
② Select [1 DISPLAY] to view the report on the touch-screen or select [2 REPORT PRINTER] to print a hard copy.

Assignment Method: The ONLINE NO. assignment is required only at the Master or Standalone machine.

Please consider the general rules listed below when using this feature:

- The Online Terminal No. is not used for Inline communications and is only for host communications

Procedure – MWS:

Enter the PGM2-Mode by pressing [MODE] and selecting [6 PGM2 MODE]
① Select [18 MWS READING]
② Select [1 DISPLAY] to view the report on the touch-screen or select [2 REPORT PRINTER] to print a hard copy.

Assignment Method: The MWS assignment requires the Pos Terminal to be set as Std w/ Irc or Master/ Satellite terminal.

Please consider the general rules listed below when using this feature:

- The IRC SETTING for a terminal type STD. WITH IRC is a minimum requirement

Section-2: Online via RS-232

Prior to programming, it is important that the hardware connections necessary for Online communications are accomplished. As a basic rule, the following steps may be used whether the online connection is direct to a PC or a modem.

1. Connecting the UP-800:

Procedure:

① Connect the specified RS232 cable to the desired Channel to be assigned
② Install a ferrite core (part no. RCORF6699BHZZ) within 50 cm of the connector on the connection cable to reduce interference

2. Cabling Specifications:

As a general rule, each peripheral's manufacturer should provide their recommended specifications for cabling to the peripheral device. The below guideline for cabling should be observed when connecting a serial device to the UP-800 terminal:

Cabling Specifications:

RS232 Serial Cable	
Maximum Distance from POS to PC	50 ft. or less
Type Cable	Twisted Pair
Wire Gauge	24 AWG / Shielded
Belden Number	9540

- The true maximum distance will be determined by the quality of the cable

3. CN1 and CN2 Connector:

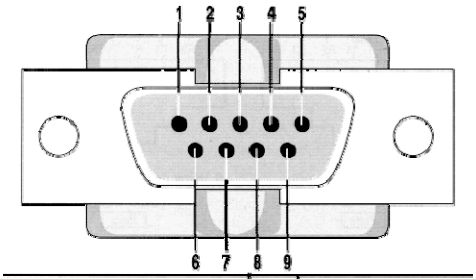
CH1 utilizes a standard PC-type COM Port - EIA-574 RS-232 pin out on a DB-9 pin used for Asynchronous Data for RS232.

(1) CH1, CH2

Connector type: D-SUB 9pin

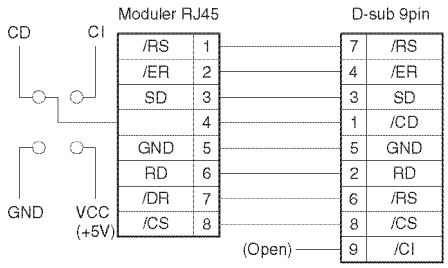
1	/CD
2	RD
3	SD
4	/ER
5	GND
6	/DR
7	/RS
8	/CS
9	

VCC(+5V) /CI

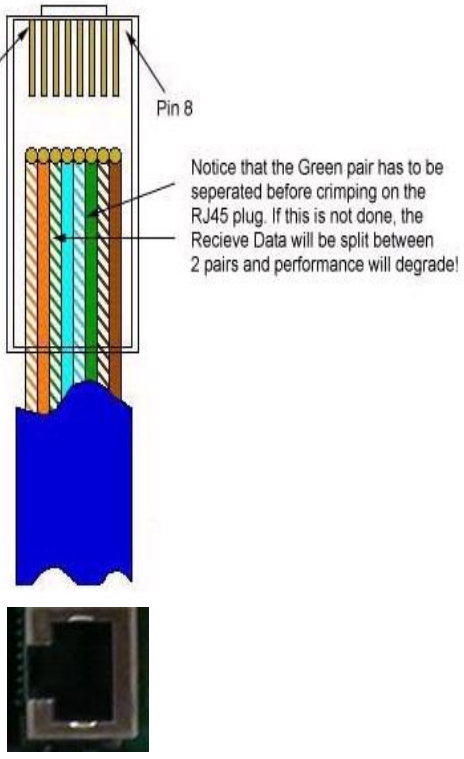


Pin	Signal	Pin	Signal
1	Data Carrier Defect	6	Data Set Ready
2	Received Data	7	Request to Send
3	Transmitted Data	8	Clear to Send
4	Data Terminal Ready	9	Ring Indicator
5	Signal Ground		

CH3 and CH4 utilizes a Modular Jack RJ45 8 pin type COM Port for RS232.



Pins 1 & 2 are the Transmit Pins
Pins 3 & 6 are the Receive Pins
Pins 4, 5, 7, and 8 are not used

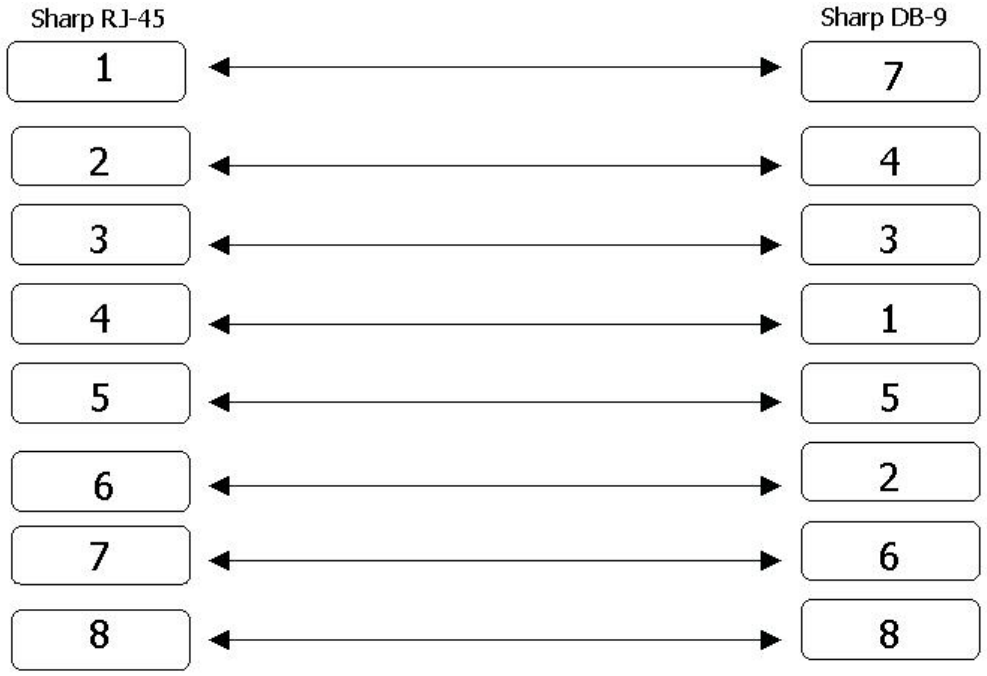


4. Conversion Cable

With the exception of printers, to attach devices to CN 3 & 4 a DB9 to RJ45 Conversion Cable is required. See the appropriate peripheral for other cable requirements.

Modular Conversion Cable for CH2

Datacomm Part# DCN100226-3E (800) 544-4627



Section-3: RS232 Communications Setup

Communications setup programming consists of SRV and PGM2 mode programming, which define the parameters which make up the UP-800 system.

1. Related Programming Jobs: Online System

SRV Mode:

SRV-Mode Related Jobs		
SRV Mode Menu / Job No.		Description
Setting – Device Config	23 Online	Online Channel Assignment for RS232 Connection
Setting – System Preset	926-C, D	C-Open Store operation for a Standalone, Sending AT command D-Online channel is reversed in a Closed Store condition

Procedure:

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [1 DEVICE CONFIG]
③ Select [23 ONLINE]
④ Enter the desired Channel # and depress the [CASH] key when completed

The menu will return to the Device Assign Sub-Menu, Depress the [CANCEL] key to exit

NOTE:
When the Online is assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method:
The ONLINE NO. assignment is required only at the standalone or master machine.

Please consider the general rules listed below when using this feature:

- A communications device can not be assigned to a Channel where a printing device is already assigned (ex: J-Printer)

PGM-Mode:

PGM Mode Job Listing		
PGM2 –Mode	Master	Satellite
11 Online Setting	☑	☒

Procedure – Online:

Enter the PGM2-Mode by pressing the [MODE] button and choosing [6 PGM2 MODE].
① Select [11 ONLINE SETTING]
② Enter the desired parameters – usually prescribed by the application software company:

- Terminal No. (000000 – 999999) ← *usually set to 000001*
- CI Signal: Non/Sensing ← *"Non" is for direct, "Sensing" is for Modems*
- Line Form: Full/Half
- Baud Rate: 38400, 19200, 9600, 4800, 1200, 600, 300 bps
- Start Code: (000 – 999)
- End Code: (000 – 999)
- Time Out: (000 – 999) seconds

Assignment Method: The application software provider determines the settings for Online.

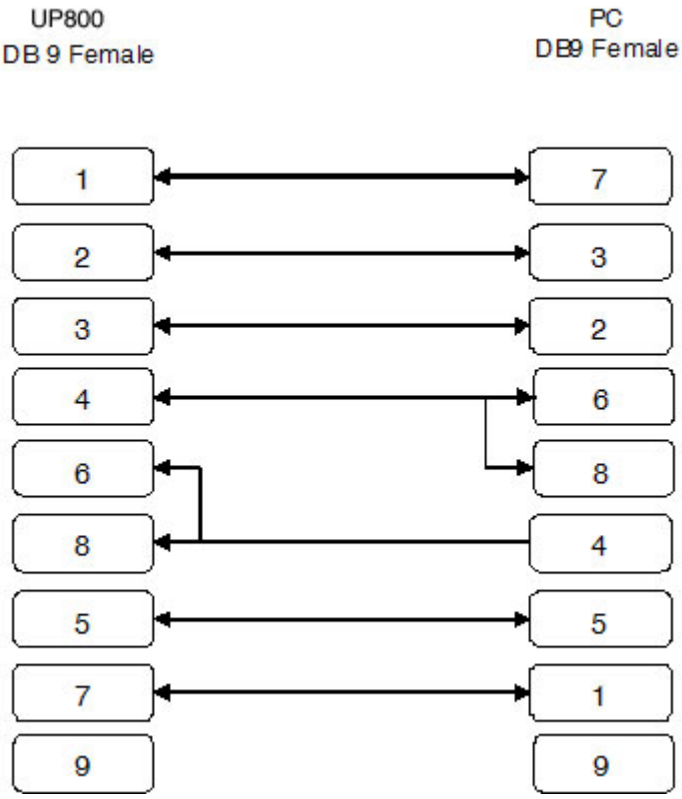
Please consider the general rules listed below when using this feature:

- When connecting a modem, data compression is not recommended
- The AT Command will be determined by the modem mfg.
- For the Inline system, the Master terminal is connected

2. Connection Cable Pin outs

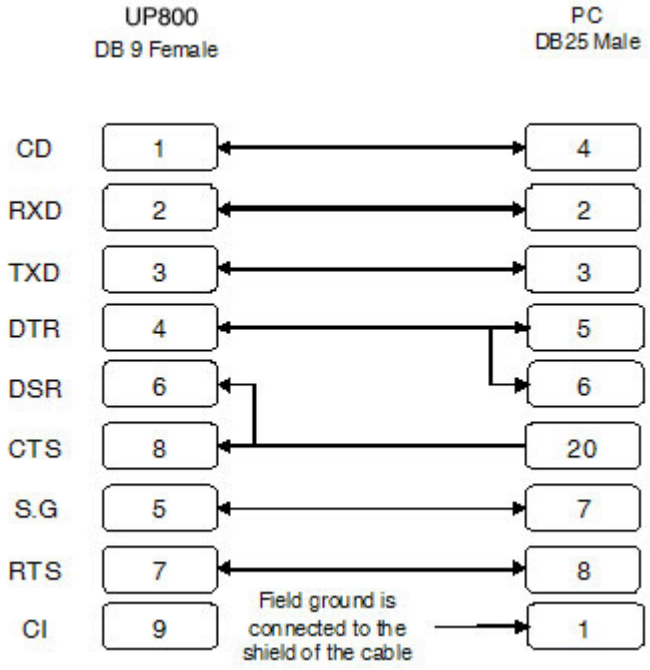
9-to-9 pin Connection Cable

The pin outs for a direct connection to a PC are shown below:



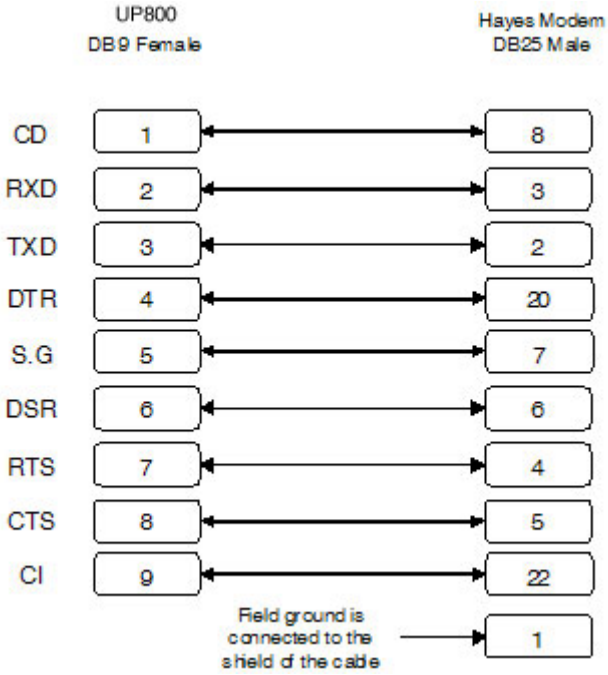
9-to-25 pin Connection Cable

The pin outs for a direct connection to a PC are shown below



9-to-25 pin Connection Cable

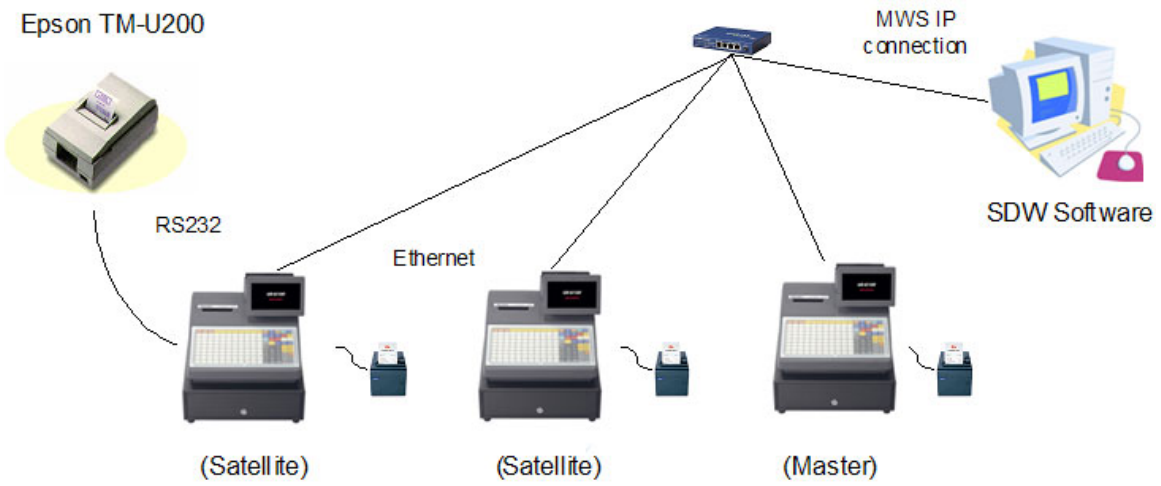
The pin outs for a direct connection to a Hayes Modem are shown below:



Section-4: MWS Setup

In simplistic terms, the UP-800 Online functions may be accomplished using the LAN connection instead of the RS232 connection when the PC can be directly connected to the Inline system.

1. Basic Configuration



2. Inline System General Specification

The basic UP-800 Inline system with MWS consists of the following:

Specifications & Requirements		
Number of Terminals	Maximum 32 Terminals	1 Master / 31 Satellites
	Host PC on LAN	1 MWS
Maximum Cable Distance	328 Feet per run (from POS to Hub)	
Additional Requirements	Hub 10Base-T	

3. MWS Function Principles

The MWS system enables a PC to communicate using the same online commands over the same LAN used by the Inline systems. For further information, please refer to the SDW polling software application.

Section-5: MWS Connection using the Inline System

Prior to programming, it is important to insure that the hardware connections necessary for each terminal are accomplished. As a basic rule, the following steps may be used for the UP-800 connection to an Inline system:

1. Connecting the UP-800:

Procedure:

1. Connect the specified LAN cable to the Ethernet port marked “LAN”
2. Install a ferrite core (part no. RCORF6699BHZZ) within 3 cm of the connector on the connection cable to reduce interference

2. Cabling Specifications:

The cabling for the MWS specification is the same as for the Inline system. Please refer to Section 5: Inline for information for the cabling specifications.

3. Related Programming Jobs - MWS:

Once the Inline system has been properly configured, to determine the MWS settings, please refer to the PGM2- mode reading as outlined below:

Program Readings	
PGM Menu	Main Menu
PGM2 Mode	18 MWS READING

Procedure:

Enter PGM2-Mode by pressing the MODE key and selecting 6 PGM2 MODE

① Select [18 MWS READING]

② Select [1 DISPLAY] to view the report on the touch-screen, or select [2 REPORT PRINTER] to generate a hard copy of the report.

Usage Method: The resulting report will provide the settings for the MWS IP ADDRESS and a Gateway IP ADDRESS, which may be used when the Inline system is an extended LAN.

Section-6: MWS Communications Setup

Once the Inline System has been properly established, the communications setup programming consists of a single PGM2 – mode-programming job, which defines the parameters which make up the UP-800 MWS IP connection.

1. Related Programming Jobs: MWS System

Procedure – MWS:

Enter PGM2-Mode by pressing the MODE key and selecting 6 PGM2 MODE
① Select [19 MWS SETTING]
② Enter the desired parameters – usually prescribed by the application software company:

1.	MWS1 IP ADDRESS 1:	(000 – 254)	← *same as Master's*
2.	MWS1 IP ADDRESS 2:	(000 – 254)	← *same as Master's*
3.	MWS1 IP ADDRESS 3:	(000 – 254)	← *same as Master's*
4.	MWS1 IP ADDRESS 4:	(000 – 254)	← PC's *unique number (000 – 254)*
5.	MWS1 Time out:	(000 – 999)	← *leave at "007"*
6.	MWS2 IP ADDRESS 1:	(000 – 254)	← *same as Master's*
7.	MWS2 IP ADDRESS 2:	(000 – 254)	← *same as Master's*
8.	MWS2 IP ADDRESS 3:	(000 – 254)	← *same as Master's*
9.	MWS2 IP ADDRESS 4:	(000 – 254)	← PC's *unique number (000 – 254)*
10.	MWS2 Time out:	(000 – 999)	← *leave at "007"*
11.	G.W. ADDR 1 – 4:	(000 – 255)	← *provided by IT assignment*

NOTE: The UP-800 MUST be a Master or Std With IRC to communicate through TCP/IP.

Assignment Method:
The MWS SETTING is only available for an Inline system or a unit that has been setup as STD. WITH IRC (standalone with Inline)

Please consider the general rules listed below when using this feature:

- The MWS IP ADDRESS number must be unique to the Inline system
- The MWS IP ADDRESS represents the IP address of the PC to be connected

Glossary - More on RS232

Independent channels are established for two-way (full-duplex) communications. The RS232 signals are represented by voltage levels with respect to a system common (power / logic ground). The "idle" state (MARK) has the signal level negative with respect to common, and the "active" state (SPACE) has the signal level positive with respect to common. RS232 has numerous handshaking lines (primarily used with modems), and also specifies a communications protocol.

The RS-232 interface presupposes a common ground between the DTE and DCE. This is a reasonable assumption when a short cable connects the DTE to the DCE, but with longer lines and connections between devices that may be on different electrical busses with different grounds, this may not be true.

RS232 Term Definitions

Glossary of Abbreviations, etc.

CTS	Clear To Send [DCE --> DTE]
DCD	Data Carrier Detected (Tone from a modem) [DCE --> DTE]
DCE	Data Communications Equipment e.g. Modem
DSR	Data Set Ready [DCE --> DTE]
DSRS	Data Signal Rate Selector [DCE --> DTE] (Not commonly used)
DTE	Data Terminal Equipment e.g. computer, printer
DTR	Data Terminal Ready [DTE --> DCE]
FG	Frame Ground (screen or chassis)
NC	No Connection
RCk	Receiver (external) Clock input
RI	Ring Indicator (ringing tone detected)
RTS	Ready To Send [DTE --> DCE]
RxD	Received Data [DCE --> DTE]
SG	Signal Ground
SCTS	Secondary Clear To Send [DCE --> DTE]
SDCD	Secondary Data Carrier Detected (Tone from a modem) [DCE --> DTE]
SRTS	Secondary Ready To Send [DTE --> DCE]
SRxD	Secondary Received Data [DCE --> DTE]
STxD	Secondary Transmitted Data [DTE --> DTE]
TxD	Transmitted Data [DTE --> DTE]

More on Cabling

Cabling considerations - you should use cabling made for RS-232 data communications using a high quality low capacitance data grade cable. The standard maxim length is 50' but if data is Async you can increase that distance with a good grade of cable.

The RS-232 signal on a single cable is impossible to screen effectively for noise. By screening (or shielding) the entire cable you can reduce the influence of outside noise, but internally generated noise remains a problem. As the baud rate and line length increase, the effect of capacitance between the different lines introduces serious cross talk (this especially true on synchronous data - because of the clock lines) until a point is reached where the data itself is unreadable. Using low capacitance cable and shielding each pair can reduce Signal Cross talk.

The maximum distance will depend on the speed and noise level around the cable run. On longer runs a line driver may be required. This is a simple modem used to increase the maximum distance you can run RS-232 data.

Cabling Construction

Beyond the obvious traits such as number of conductors and wire gauge, cable specifications include a handful of less intuitive terms.

Characteristic Impedance (Ohms): A value based on the inherent conductance, resistance, capacitance and inductance of a cable that represents the impedance of an infinitely long cable. When the cable is out to any length and terminated with this Characteristic Impedance, measurements of the cable will be identical to values obtained from the infinite length cable. That is to say that the termination of the cable with this impedance gives the cable the appearance of being infinite length, allowing no reflections of the transmitted signal. If termination is required in a system, the termination impedance value should match the Characteristic Impedance of the cable.

Basic constructions

Wire and cable consists, for the most part, of four basic constructions:

- Single conductor
  - One conductor, bare or insulated.
- Multi conductor
  - Multiple insulated wires
- Twisted pairs
  - Two insulated wires usually twisted together
- Coaxial cable
  - Insulated center conductor with a shield and jacket overall.

Solid and Stranded

Conductors come in two variations, solid and stranded. Solid (Figure 1) offers slightly lower resistance. The key to solid conductors is better performance at high frequencies.

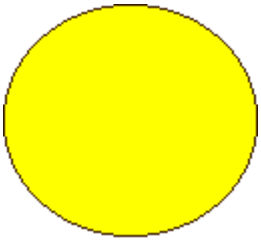


Figure 1

Stranded (Figure 2) offers greater flexibility that is limpness, and greater "flex-life", or flexes until failure.

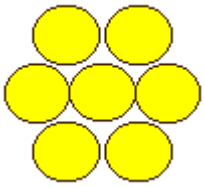
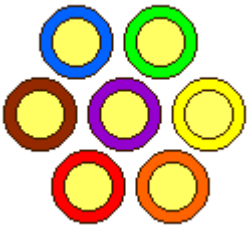


Figure 2

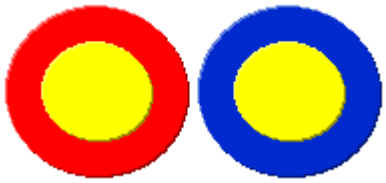
Multiconductor

As the name implies, multi conductor cables consist of many conductors. (Figure 3.) They are common in control applications but are rarely used for signal applications, and therefore, we will not be focusing on them for this paper.



Twisted Pairs

Twisted pairs (Figure 4) consist of two insulated wires twisted together. They are specifically intended for carrying. Twisted pairs offer low noise pick-up and low noise emission from a cable because it is a balanced line and because a balanced line offers "common-mode noise rejection".



Balanced Line

A balanced line is a configuration where two wires are kept close together, usually by twisting them (Figure 5). Conductors need to be the same length, the same size, with a constant distance between them.

Figure 5

It should be noted that the signal, at any instant in time, is exactly the same but opposite polarity on the two wires. Another way of saying that is, if you note the signal voltage at any point of the cable, they should add up to zero.

When Noise Appears:

Noise is a fact of life. It is electromagnetic radiation and can come from many sources including fluorescent lighting, motors, car ignition systems, equipment such as hospital analyzers, transmission equipment from CB's, truck, taxis, radio and television broadcasters, and natural sources such as the sun.

When noise appears, and hits the two wires in our twisted pairs (Figure 6), the electromagnetic radiation of the noise induces a voltage in both wires. However, the direction is the same or "common mode" in both wires.

Figure 6

When the two noise signals reach either end of the cable, there is either a passive balancing device (such as a transformer shown in Figure 6) or the equivalent active balanced input. As you can see, the two noise signals on the two wires cancel each other out. In this way, the noise cancels out and the signal (which is "differential mode") can continue through.

Shielding

Shields are added to twisted pairs, or multiconductor cables, to help prevent in ingress (interference) or egress (radiation) of noise. Shields are an inherent part of coax cable. There are six basic shield configurations:

- Unshielded
  - Twisted pairs, especially in data, are often unshielded. Coax, by definition, cannot be unshielded.
- Serve/spiral shields
  - Serve or spiral shields are simply wound around the inner conductors.
- Braid shields
  - Conductors woven or braided around a core. Most effective from 1,000 Hz to 50 MHz.
- French braid shields
  - This is a combination of serve and braid. Here two serves are braided along one axis.
- Foil shields
  - These are the simplest, cheapest, and easiest to apply. They are most effective above 50 MHz
- Combination shields
  - Combined foil and braid shields are effective at low and high frequencies.

Unshielded

Unshielded cable is appropriate where no noise is present, such as no cross talk from adjacent wires. Or it can be used if you don't care if there is noise, that noise cannot substantially affect the signal on the cable.

Unshielded cables are especially prevalent in the data world where pairs have very tight twists, or may use conductors that are bonded together. Such high-performance pairs are good to excellent at not picking up or radiating noise.

Braid Shields

Braid shields are formed by spinning wires or groups of wires around a core. This slow and labor-intensive process makes braiding the most expensive single step of cable manufacturing. Single braid coverage of up to 95% can be realized. Double braid coverage can be up to 98% coverage. Since braids always have "holes" where the wires cross, 100% coverage not possible with braid.

Braid shields are most effective at frequencies from 1,000 Hz to 50 MHz. For these frequencies, the low resistance of a braid gives good coverage. Below 1,000 Hz there is no standard braid material, which is effective. The wavelengths are so long, and the low frequency energy so pronounced, that the only effective shielding is solid steel conduit. And, at 60 Hz, even steel conduit gives 27 dB of noise reduction.

Foil Shields

Foil shields are the easiest and cheapest to apply. They can be applied as fast as the cable will run. Foil shields actually consist of two layers, a metal layer and a plastic substrate of polyester. This can be easily seen since the foil is silver on one side and colored (red, blue green or other colors) on the plastic side.
Since foil shields lack the mass and low resistance of a braid shields, the exhibit poor to average low-frequency performance. However, after 50 MHz, foil shields have excellent high frequency coverage. Since foil is a continuous sheet of metal, coverage can be 100%.

Combination Shields

Combination shields consist of foil and braid combined. Occasionally there can be more than one layer of each, such as "quad" cable television cable, so called because it has two layers of foil and two layers of braid. Because of this, combination shields are the most expensive of all. But they also give the best broadband coverage, since it contains a braid for low frequencies and a foil for high frequencies The difference between broadcast coax cables, which often contain foil and braid in digital applications, and CATV/broadband cable is that CATV cables use low coverage braid (sometimes as low as 40). The reason is that these cables only operate above 50 MHz. At those frequencies, braid shields are ineffective. It is actually the foil shield that is doing all the noise reduction. The braid shield is there to give the F-connector something to grab onto. It’s a reliability issue, not a performance issue. CATV braids are aluminum belying their low cost and indicating that this braid is not included for performance.
Combination braids are required for digital video such as SDI or HD. The Broad frequency ranges of SDI (135 MHz) or HD (750 MHz) make a combination shield a requirement. That being said, it should be notes that double-braid cables (such as Belden 8281) can still operate at these high frequencies. It is simply that the effective distance they can run is severely reduced compared to cables with foil + braid (among other improvements). Most precision digital cables contain 95% braid + 100% foil

More on the Type Wire

Wire Gauge

The size of each wire is describes as the gauge size, and is measured in units of American Wire Gauge (AWG). Below is a list of gages with a description of how small or large that size is:

40 AWG	smaller than a hair
30 AWG	sewing thread
20 AWG	diameter of a pin
10 AWG	knitting needle
1 AWG	pencil
1/0	"1-aught" finger

Resistance

The choice of metal, the gauge size of the wire, and the length of the wire can determine the resistance of any conductor. Charts are available, such as in the back pages of the Belden Master Catalog, which shows the resistance for stranded wire from 36 AWG to 10 AWG, and the resistance for solid 40 AWG to 10 AWG.

All wire has resistance. Resistance affects the signal by turning part of the signal into heat. This creates a voltage drop on the wire when one end is compared to the other. The voltage drop can be determined by one of the formulas of Ohm's Law, $E = I^2R$, where E is the voltage drop on the wire, I is the current in amps, and R is the resistance in ohms.

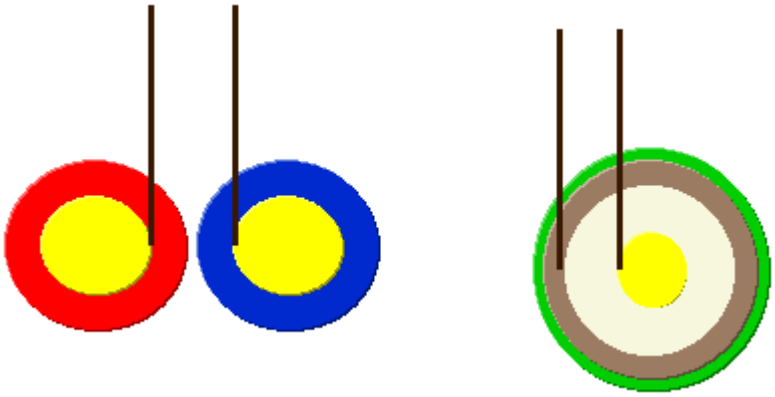
While a voltage drop in the presence of any resistance is unavoidable, picking a larger conductor with lower resistance can reduce the effect. Also, resistance is linear over frequency, meaning that resistance affects all frequencies equally. It is therefore often ignored since the effect may be a minor drop in overall level.

Insulation

Basic insulation prevents wires from touching each other and creating a short circuit or grounding portions of a circuit that should not be grounded.

Capacitance

A capacitor is a device that holds an electrical charge. It consists of two metal plates with insulation in between. Well, isn't that exactly what a cable is? Two metal plates (or wires) with an insulator (dielectric) in between. Figure 9 shows the specific parts of a twisted pair and coax cable that are involved with capacitance.



While cables do have capacitance, it is very small, due mostly to the fact that the wires are also small. Capacitance in cables is almost always measured in picofarads-per-foot. (pF/ft.) A picofarad is a trillionth of a farad, the unit of capacitance. So why would we have any interest in an effect that small? Because you don't use just one foot of cable. Most often you are using tens, hundreds, even thousands of feet. And this capacitive effect adds up. That is, a 1,000-ft. cable will have 1,000 times the capacitance as a one-foot piece. Then you can get up to some serious capacitance!

The real problem with capacitance is that it is affected by the frequency of the signal on the cable. The higher the frequency, the more the capacitance "stores" that signal as a charge. This "reaction" to frequency creates "capacitive reactance" also measured in Ohms, like resistance. But the effect changes with frequency, which resistance does not. Being "Frequency-dependant", capacitance is responsible for the "Frequency response curve" of any cable.

Inductance

The electrical signal down a wire also creates a magnetic field down that wire. This effect is called "inductance". However, on most cables, the inductive effect is so tiny, that it is never listed in a catalog. The effect, with a frequency running on the cable, is called "inductive reactance".

Because the inductance is tiny on most cables, the inductive reactance is also tiny. Inductance and capacitance are reverse effects. Therefore, they cancel each other out. But, in almost every cable, the capacitance and capacitive reactance and so much greater that they cancel out the inductance and inductive reactance/ But there is still capacitance, and capacitive reactance, left. This is why capacitance is a critical number in almost every cable type from analog audio to high-speed UTP, and inductance is essentially ignored.

Inductance is based mainly on the size of the wire (AWG) and can be most easily changed by changing the size of the wire.

Impedance

Of all the effects of frequency on a cable, impedance is the hardest specification to understand. That is because it is the sum-total effect of resistance, capacitance, and inductance when a frequency or band of frequencies is applied to the cable. Since it describes the "total opposition to current flow" caused by these three factors, it too is measured in Ohms.

Fire Ratings

The National Fire Protection Agency (NFPA) is a voluntary non-profit organization that puts out the National Electrical Code (NEC). This book sets suggested standards for safe construction of buildings. These standards include flammability testing of wire and cable.

The NEC code is voluntary. This means that a state, county, or city may or may not adopt the code. The majority of the states and communities subscribe to the NEC, but you can't know for sure unless you ask.

The NEC book lists many different cable ratings. Unrated cables are those which will not be installed, and which will be visible when in operation such as microphone cables. In the 1999 NEC, they now state that any cable installed must carry a rating. If this is how your inspector interprets the new rules, then unrated cables cannot even be installed in a conduit.

Section – 7: EFT & GIFT CARD

Section-1: General Overview

UP-800 Supported Functions

The UP-800 POS terminal will support the following functions:

No.	Procedure	Function Supported
1	Batch Execute	Open Batch
		Close Batch
		Clear Batch
		Change Batch
		Initialize
		Dial Out
		Dial In
2	Reports	Local Summary
		Local Inquiry
		Local Total
		Batch Status

Sales Functions:

Function	Normal Sale	Refund Sale	VOID Mode Sale	VOID Mode Refund	Edit Tip
Credit: Dial	O	O	O	O	O
Credit: Authorization only	O	O	X	X	X
Credit: Post Authorization	O	X	X	X	X
Debit	O	O	X	X	X
Check	O	X	X	X	X

O = Yes, X = No

Assignment Method:
Each function is initiated through the Media key preset. The corresponding Function key must be accessible in order to execute entries and provide reporting totals.

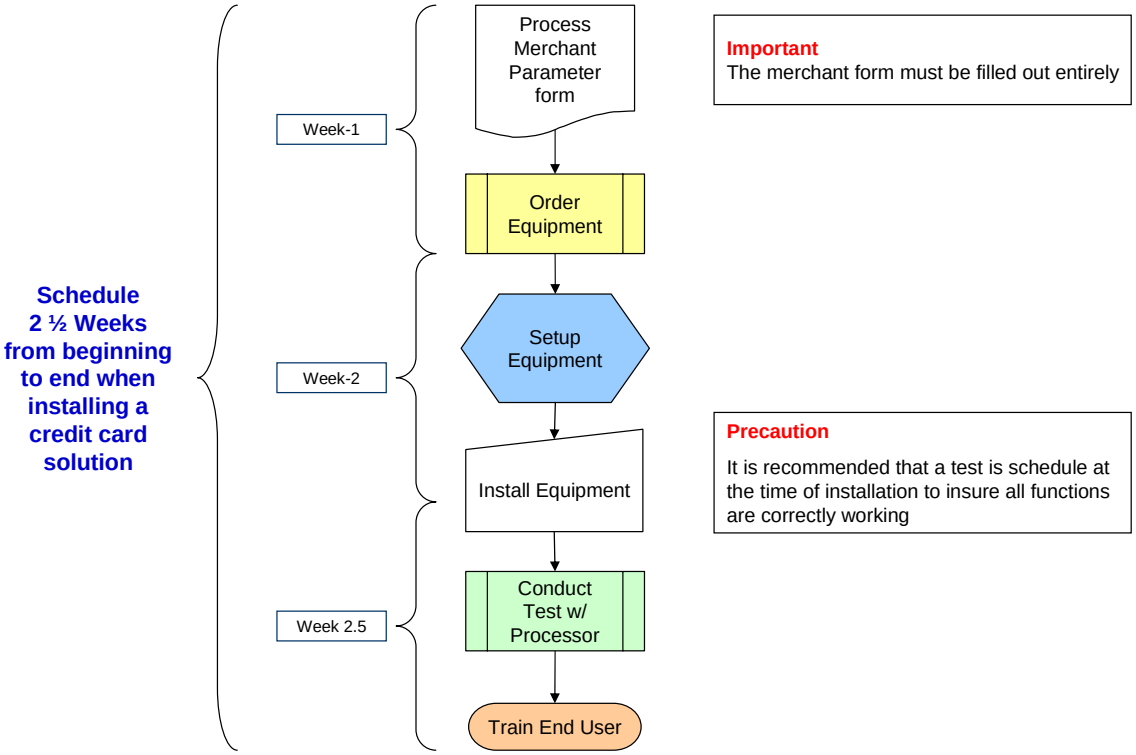
Please consider the general rules listed below when using this feature:

- Charge Tips may be entered for Normal and Guest Check entries
- The Closed Check file must be allocated to Edit Tips
- When using Split-Tender the Charge Tip amount must be settled first (the Tip can not be split)
- When a Guest Check is to be paid with multiple medias, then the [BS] function must be used
- Check Tender is w/o MICR (manual data entry)

General Guidelines

The general guideline for implementing a successful installation is outlined below

Selling Credit Card Solution



NOTE:
Do not remove the previous credit card solution until it is certain that the integrated solution is proven.

IMPORTANT:
To simplify the installation and training process it is important to avoid taking shortcuts in procuring the product and/or taking shortcuts in the process

Please consider the general rules listed below when using this feature:

- Assist the store owner with obtaining the necessary information from the bank
- Allow at least 1 week to obtain the merchant parameters – especially new accounts
- Always set up new merchant accounts - verify each card type to be used
- Schedule a test day with the processor to verify sales and batch operations

Section-2: Programming Principles

The UP-800 POS terminal incorporates the use of certain function keys to be used when making programming changes.

To simplify programming, please review the below list of function keys and usages listed below:

Function

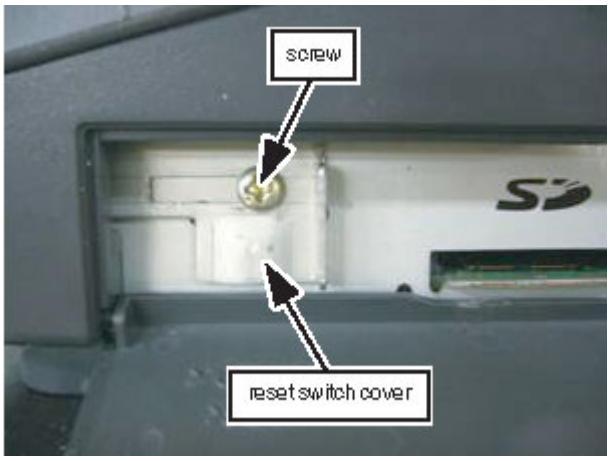
↑ ↓ ← →	The UP, DOWN, LEFT and RIGHT arrow keys are used to navigate within the specified menu and/or preset entry field.
PAGE UP	Used to scroll the programming window back to the previous page
PAGE DOWN	Used to scroll the programming window to the next page
.	Used to “toggle” between fixed selections within a preset entry field when it is applicable
SBTL	The SUBTOTAL key is used to “List” available fixed selections within a present entry field when it is applicable
ENTER	Used to “set” each preset entry field
CA/AT	Used to “finalize” each preset entry
CL	Used to clear the last setting you have programmed or clear an error state
CANCEL	Used to “cancel” programming and return to the previous screen

1. Entering SRV-Mode/Program Reset

To enter SRV Mode programming or to perform a program reset, you must toggle the Reset Switch to the on or forward position and then back to the original off position.

Procedure:

① Unscrew the plate covering the Reset Switch to gain access
② Set the Reset Switch to the “ON” or forward position
③ Set the Reset Switch to the “OFF” or original position.
④ Reattach the plate covering the Reset Switch.



1. SRV-mode Program Readings:

List of SRV-mode Program Reports:

EFT Related Jobs		
Mode	Main Menu	Sub Menu
SRV-Mode	1 READING	1 SYSTEM PRESET
		2 DEVICE CONFIG

Procedure – System Preset:

① Enter the SRV-Mode as previously outlined
② Select [1 READING]
③ Select [1 SYSTEM PRESET]
④ Select [1 DISPLAY] to view the report on the touch-screen or [2 REPORT PRINTER] to generate a hard copy.

Procedure – Device Assign:

① Enter the SRV-Mode as previously outlined
② Select [1 READING]
③ Select [2 DEVICE CONFIG]
④ Select [1 DISPLAY] to view the report on the touch-screen or [2 REPORT PRINTER] to generate a hard copy.

Caution:
When adding Credit Card devices, it is critical not to assign more than 1-type device to the same channel no. Please verify that multiple type devices are not assigned to the same channel no.

Example: EFT and Printers **"CANNOT"** share the same Channel No. Assignment

2. PGM-mode Program Readings:

The PGM mode readings for credit card devices are also associated to the other presets readings (ex: Media Keys, etc.) that may be found within each section.

List of PGM2-mode Program Reports:

EFT Related Jobs		
Mode	Main Menu	Sub Menu
PGM2-Mode	1 READING	11 MEDIA
	14 EFT READING	

Procedure – Media:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]
① Select [1 READING]
② Select [11 MEDIA]
③ Select [1 DISPLAY] to view the report on the touch-screen or [2 REPORT PRINTER] to generate a hard copy.

Procedure – EFT:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]
① Select [9 PGM2 MODE]
② Select [14 EFT READING]
③ Select [1 DISPLAY] to view the report on the touch-screen or [2 REPORT PRINTER] to generate a hard copy.

Section-3: EFT Related Programming

EFT (Electronic Funds Transfer) related programming includes Credit, Check and Debit card authorization setup, which consist of service-mode and PGM-mode programming jobs, which define the UP-800 system capabilities.

Recommendations:

Recommended Sequence for programming:

Please complete the SRV-mode and PGM-mode sections in the order outlined below:

① Always back up your existing program prior to adding Credit and/or Debit Card Authorization.
② Set the Device Configuration:
   a. EFT
   b. PIN Pad
③ Set any applicable SRV Mode - System Presets
④ Place the necessary Function keys on the keyboard SRV Mode - Free Key Layout
⑤ Allocate any Memory Files SRV Mode – File Allocation
⑥ Perform a Program Reset (SRV Reset)
⑦ Set related presets in PGM2 mode
   a. EFT Settings
   b. Media Key presets
⑧ Initialize the device
⑨ Conduct a Test with the merchant's processor
   a. Credit Card sales
   b. Check Card sales
   c. Check sale (if applicable)
   d. Debit sale (if applicable)

Related Programming Jobs: EFT System

System Presets:

SRV Menu / Job#		Description
SRV Mode - Device Config		EFT
		PIN Pad
		IC Card
SRV Mode – System Presets	902-B	Gift Reload Command to DataTran/Ref # and AP code entry at Gift Sales in Void
	902-C	Gift Card Command to DataTran
	903-B	Printing of Gift Card No. for Activate/Reload
	906-B	Enable Hash/Gift department
	980-B	Hash/Gift Department Affect Hourly Sales
SRV Mode – Free Key		Function No. 42 CHARGE TIP (Charge Tip)
		Function No. 237 CHECK
		Function No. 238 CHECK2
		Function No. 239 CHECK3
		Function No. 240 CHECK4
		Function No. 241 CHECK5
		Function No. 242 CHECK6
		Function No. 243 CHECK7
		Function No. 244 CHECK8
		Function No. 245 CHECK9
		Function No. 246 CHARGE1
		Function No. 247 CHARGE2
		Function No. 248 CHARGE3
		Function No. 249 CHARGE4
		Function No. 250 CHARGE5
		Function No. 251 CHARGE6
		Function No. 252 CHARGE7
		Function No. 253 CHARGE8
		Function No. 254 CHARGE9
		Function No. 85 EDIT TIP
		Function No. 80 RECEIPT ON/OFF
		Function No. 89 GC BAL (Gift Card Balance)
SRV Mode – File Allocation		File Group No.43 Close GLU
		File Group No. 44 Auto GLU Generate
		File Group No.62 Ind. Pay Buffer
		File Group No.42 GLU/PBLU (All)

NOTE: These are minimal settings related to credit/gift card function for the terminals. More programming may be necessary as per end user specifications.

Caution:
Making changes to the Systems Presets that are related to Inline System control will require the execution of the IRC SETTING job.

Please consider the general rules listed below when using this feature:

- An IRC SETTING is required after modification to memory file allocation
- A PROGRAM RESET is required upon modification

PGM2 Mode

PGM Job #	Selection	Description	Options
2.Setting	01 ARTICLE	01 DEPARMENT	EFT/ACCT Prog., EFT, EFT Type, Card# Print, Card# Format, Signature Line Print, Card Holder Print, Expiration Print, Number of Receipts, Tip Line Print
		02 PLU/UPC	
	05 MEDIA	01 CASH	
		02 CHECK	
		03 CHARGE	
		04 FINAL	
15.EFT Setting	01 EFT Preset/ 04 PRESET	IP Address 1-4	1-254
		Time Out1	010
		Time Out2	180
		Time Out3	3000
		Tel No.	12 digits
		Tel ID	8 digits
		Tel Mode	Tone/Pulse
		FTS Mode	Disable/Enable
		Amount%	000.00% - 100.00%
	02 PIN Pad	Time Out1	000 – 255 (recommended 010)
		Time Out2	000 – 255 (recommended 099)
		Baud Rate	300/1200/2400/4800/9600/19200
	03 IC CARD	Time Out1	060

1. Device Assign Settings

The SRV-mode programming of the UP-800 consists of Device Assignment, System Presets, Free Key layout and File Allocation. The recommended settings are described below:

EFT

The EFT device may be added to the UP-800 configuration when EFT functions are required. The DataTran modem is used for the EFT device and may be setup as outlined below:

Procedure

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [17 EFT]
④ Enter the desired parameters followed by depressing the [ENTER] key
⑤ Depress the [CASH] key when all settings are completed
The menu will return to the Device Config Sub-Menu
⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE:
When the EFT device is assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method:
The CHANNEL NO. assignment is required at the machine where the EFT device is physically connected. For the Inline configuration – the TERMINAL and CHANNEL of the machine where the DataTran modem is physically located is required

Please consider the general rules listed below when using this feature:

- No other device can be assigned to a Channel where a the EFT device is already assigned (ex: SCALE)

PIN Pad

The PIN Pad device may be added to the UP-800 configuration when Debit Card w/ PIN entry functions are required. The Datacap Peripheral Device Controller and VeriFone PIN pad 1000 is used for the PIN entry device and may be setup as outlined below:

Procedure

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [18 PIN PAD]
④ Enter the desired Channel# followed by depressing the [ENTER] key
⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE:
When the PIN Pad device is assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method:
The CHANNEL NO. assignment is required at every machine where the PIN Pad device (Peripheral Device Controller) is physically connected.

Please consider the general rules listed below when using this feature:

- No other device can be assigned to a Channel where a the Peripheral Device Controller is already assigned (ex: SCALE)

IC Card

Procedure

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [01 DEVICE CONFIG]
③ Select [27 IC CARD]
④ Enter the desired Channel# followed by depressing the [ENTER] key
⑤ Depress the [CASH] key when all settings are completed

The menu will return to the Device Config Sub-Menu

⑥ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE:
When the IC Card device is assigned to the desired Channel No., it is recommended that a PROGRAM Reset be performed.

Assignment Method:
The CHANNEL NO. assignment is required at every machine where the IC CARD device.

Please consider the general rules listed below when using this feature:

- No other device can be assigned to a Channel where a the IC Card is already assigned (ex: SCALE)

2. System Preset Settings

There are System Preset jobs that should be preset with recommended values based on the requirements of UP-800 system configuration and are described below:

Procedure

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [02 SYSTEM PRESET]
③ Enter the desired parameters:

- SRV#902 = 0310 when ViVOpay is Stand Alone (1310 when Inline) is recommended
- SRV#902 = xx2x: when the Network is Host-based
- SRV#902 = xxxx: when the Network is Terminal-based (Batch operations)
- SRV#902 = xx1x: Gift Card Command to DataTran
- SRV#902 =x4xx: Gift Reload Command to DataTran
- SRV#902 =x2xx: Ref# and AP Code entry for void of Gift Sales Non-Compulsory
- SRV#903 = x1xx: Printing of Gift Card Number for Activations/Reloads
- SRV#906 = x2xx: Enable Hash/Gift department
- SRV#916 = x4xx,
- SRV#918 = xxx1
- SRV#921 = xxx4
- SRV#980 = x1xx: Hash/Gift Department affects Hourly Sales

④ Depress the [CASH] key when all settings are completed
⑤ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE: SRV#906-C must disable fast food to allow Open Price PLU.

NOTE:
SRV#918 and #921 are related to the Server Tip Paid function, which impacts the usage of the Edit Tip entry used for Credit Card Authorization.

3. Free Key Layout Settings

The Function keys required and the description for recommended usage are shown below:

Recommended Function Keys

Function

Func.No. 233 CA2; The CASH2 media key is preset for Debit settlement

Func.No. 237-245 CHECK1-9; the check media keys are preset for Checks and/or Check Card settlements (w/o MICR). Check keys can also be used for Gift Cards.

Func.No.246-254 CHARGE1-9; the charge media keys are preset for Credit Card and/or Check Card settlements. Charge keys can also be used for Gift Cards.

Func.No.42 CHARGE TIP; the charge tip function is used to enter tips included in Credit Card sales prior to finalization.

Func.No.85 EDIT TIP; the edit tip function is used in conjunction with the closed check file and may only be used for modifying a tip entry for a FLU transaction

Func.No.40 RCPT; The receipt copy key used to issue a receipt or generate 2nd or subsequent copies of the sales transaction.

Example Free Key Layout Programming

Procedure

Enter the SRV-Mode as outlined in Section -1

① Select [2 SETTING]
② Select [6 FREE KEY LAYOUT]
③ If the function key is to be placed on the touch-screen, select [1 HOME MENU DISPLAY]. If the key is to be placed on the keyboard, select [2 KEYBOARD LAYOUT]
④ Select <028 ALL FUNC.KEY>
⑤ To program the keyboard, use the UP and DOWN arrow keys, scroll to the desired Function key and depress the desired location on the keyboard. To program the touch-screen, select [1 HOME MENU DISPLAY] from the free key layout menu. Choose [1 SETTING], use the UP and DOWN arrows to select the desired function and press [ENTER]
⑥ Depress the [ENTER] key located on the Receipt-Window when all settings are completed
⑦ Depress the [CANCEL] key to return to the SRV Mode Setting Sub-Menu

NOTE:
When placing Function keys on the keyboard please refer to the Free Key Layout section for further information

4. File Allocation

Allocation of memory files is necessary when Guest Checks and the Edit Tip function are requirements. The Edit Tip function is intended for adding the CH TIP to a guest check after the check has been previously settled by the patron's credit card.

Procedure

Enter the SRV-Mode as outlined in Section -1
① Select [2 SETTING]
② Select [08 FILE]
③ Select [05 GLU]
④ Select [42 GLU/PBLU (ALL)]
⑤ Enter the desired parameters:
1. Index: No. Open Checks at any one time (+1)
2. Records: Total number of lines shared by the system (+ Reg Buffer)

⑥ Depress the [ENTER] key to finalize the settings

Allocation Method:
GLU/PBLU (ALL) is to be allocated at the Standalone, Master, Satellite and Backup Master (based on SRV Job#920-B and SRV Job#921-B).

Please refer to the File Allocation section when allocating memory for the guest check function.

⑦ Select [43 CLOSED GLU] and input the number of closed checks (ex: 300)
⑧ Enter the desired parameters:
RECORD = No. Closed Checks per day

⑨ Depress the [ENTER] key to finalize the settings

Allocation Method:
CLOSED GLU is to be allocated at the Standalone, Master and Backup Master (based on SRV Job#920-B and SRV Job #921-B)

Please refer to the File Allocation section when allocating memory for the guest check function

⑩ Select [44 AUTO GLU GENERATE] and input the number of open checks

⑪ Enter the desired parameters:
RECORD = GLU Index (+) 1

⑫ Depress the [ENTER] key to finalize the settings

⑬ Depress the [CANCEL] key to return to the SRV mode Main Menu

Allocation Method:
AUTO GLU GENERATE Allocated at the Standalone, Master, Satellite and Backup Master (based on SRV Job #921-B).

Please refer to the File Allocation section when allocating memory for the guest check function

5. PGM2 mode programming:

The PGM2 mode-programming settings outlined in this section are recommended settings for a typical implementation of the UP-800 EFT function for credit card, debit card and/or personal checks.

EFT Settings:

Procedure:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]

① Select [15 EFT SETTING]
② Select [1 EFT PRESET]
③ Select [4 PRESET]
④ Set the following parameters time-out values as shown below followed by depressing the [ENTER] key

- TIMEOUT1 = 010
- TIMEOUT2 = 180
- TIMEOUT3 = 3000

⑤ Set the TEL NO. as instructed for DIAL OUT purposes – using the [TEXT] keyboard
- Example: TEL NO. = 1,2159973963

⑥ Set the TEL ID to the designated number provided by Datacap for that merchant file or DIAL OUT purposes
⑦ Set TEL MODE to the desired setting followed by depressing the [ENTER] key
⑧ Set FTS MODE = ENABLE for Inline systems or DISABLE for Stand-alone machines
⑨ Set the AMOUNT% only when CH. Tips are used
⑩ Depress the [ENTER] key to finalize the settings
⑪ Depress [CANCEL] when at the EFT SETTING sub-menu to exit to the PGM2 Main-Menu

NOTE:
The AMOUNT% is used as a calculation basis for DataTran's Authorization Amount parameter. It is recommended to set this parameter = 15.00% - 50.00% when using the CH Tip function

Assignment Method:
When using Nova or any other Host-based service, the Amount% should be preset to %0. 00

PIN Pad Settings:

Procedure:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]

① Select [15 EFT SETTING]
② Select [2 PIN PAD]
③ Set the following parameters time-out values as shown below followed by depressing the [ENTER] key

- TIMEOUT1 = 010
- TIMEOUT2 = 099
- BAUD RATE = 9600 bps

④ Depress the [ENTER] key to finalize the settings
⑤ Depress [CANCEL] when at the EFT SETTING sub-menu to exit to the PGM2 Main-Menu

NOTE:
The PIN Pad settings are preset to the recommended settings from MRS Defaults

Department and PLU Programming Settings (Gift Card):

Procedure:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]

① Select [02 SETTING]
② Select [01 ARTICLE]
③ Select [01 DEPARTMENT]
④ Create two new departments or select departments which are not being utilized. At a minimum:
   a. For the first department, set its Department Type to GIFT and set the other parameters accordingly.
   b. Set the other department's Department Type to GIFT RELOAD and set the other parameters accordingly. Press [CANCEL] to return to the Article menu.

   Refer to the Instruction Manual for programming departments.

⑤ Select [02 PLU/UPC]
⑥ Create two new PLUs or select two available PLUs. At a minimum:
   a. For the first new PLU, change its text to Gift Card Activate (or whatever you prefer) and link it to the newly created GIFT department (step 4). For the PLU's pricing, set its Entry Type to Open.
   b. For the 2nd PLU, change its text to Gift Card Reload (or whatever you prefer) and link it to the newly created GIFT RELOAD department (step 1). For the PLU's pricing, set its Entry Type to Open.

6. Media Key programming:

The media key initiates communications to the DataTran unit based on the presets entered during setup. The below procedures are separated by the type media key:

Credit Card Finalization Keys:

There are 2 methods in which to set the system for credit card finalization:

Method-1: for simplified operations:
It is possible to provide a single Credit Card key and rely on the DataTran terminal to track the individual credit card's totalizers.

Method-2: for detailed operations:
It is possible to provide a media key for each type of credit card at the POS terminal and cross check the machine's totalizers against the DataTran.

Procedure:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]
① Select [02 SETTING]
② Select [05 MEDIA]
③ Select [03 CHARGE]

④ Select the desired Charge media key(s) to be used for Credit Cards (CHARGE1 – CHARGE9)
⑤ Enter the desired parameters and at minimum, set the following parameters:

- EFT/ACCT PROG. EFT Compulsory
- EFT: Dial
- EFT TYPE: Credit
- Card# Print: Yes or No
- Card# Format: Full or Partial
- Sign. Line Print: Yes or No
- Card Holder Print: Yes or No
- Expiration Date Print: Yes or No
- Number of Receipts: 0 – 9 (usually 2)
- Tip Line Print Yes or No

NOTE: If you are utilizing the Edit Tip function, you will need to set the 'CLOSED CG' parameter to RETAINED

NOTE:
If you are using the IC CARD device, set the IC CARD parameter to YES

⑥ Depress [CASH] when all settings are completed to exit to the PGM2 Charge Sub-Menu
⑦ Depress [CANCEL] to exit the Charge Sub-Menu and return to the Media preset menu

NOTE:
Repeat steps 4 thru 7 for each subsequent charge card to be programmed as a credit card finalization key. Only one charge media is required.

Assignment Method:
For terminal-based host systems (batch operations required), it is recommended to select a single CHARGE media key when settling credit cards to simplify operations for the operator. The individual Credit Card totals are provided upon the EFT reports.

Please consider the general rules listed below when using this feature:

- Preset the Footer Print related programming in SRV Job#911-C = "+1"
- Enable Footer Print = Enable for the Media key preset
- Partial tenders are required, the Charge media key must be preset as 'Amount Tender = Compulsory"

Check Card Finalization Keys:

The Check card is actually a form of debit, but is processed in a similar fashion to credit cards when using the DataTran unit. Additionally, some requirements that exist for Credit cards (ex: signature, adding tips, etc.) are also a requirement when this type of card finalizes the sales transaction.

Assignment Method:
To keep the system balancing simple, we recommend that a single Charge media key be preset for all Check cards. Settings for Check Cards are identical to Credit Cards with the exception of the Text parameters.

Check Finalization Keys: (w/ Manual Data Input):

The UP-800 can also support end user requirements that include processing the traditional written Check as a form of sales finalization. The method that is used with Check finalization is supported with data entry versus a MICR reader.

Method: The method used for Check finalization is with data entry. This model POS terminal does not support the MICR interface.

Procedure:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]

① Select [02 SETTING]
② Select [05 MEDIA]
③ Select [02 CHECK]
④ Select the desired Check media key(s) to be used for Check payments (CHECK1 – CHECK9)
⑤ Enter the desired parameters and at minimum, set the following parameters:

- EFT/ACCT PROG. EFT Compulsory
- EFT: Dial
- EFT TYPE: Check
- Card# Print: Yes or No
- Card# Format: Full or Partial
- Sign. Line Print: Yes or No
- Card Holder Print: Yes or No
- Expiration Date Print: Yes or No
- Number of Receipts: 0-9
- Tip Line Print Yes or No

⑥ Depress [CA/AT] when all settings are completed to exit to the PGM2 Check Sub-Menu
⑦ Depress [CANCEL] to exit the Charge Sub-Menu and return to the Media preset menu

NOTE:
Repeat steps 4 thru 7 for each subsequent check settlement key to be programmed as a check finalization key.

Assignment Method:
For terminal-based host systems (batch operations required), it is recommended to select a single CHECK media key when settling personal checks to simplify operations for the operator.

Please consider the general rules listed below when using this feature:

- When the Tip Line is not desired, then preset Sign. Line Print = No
- Preset the Footer Print related programming in SRV Job#911-C = "+1"
- Enable Footer Print = Enable for the Media key preset

Debit Finalization Keys (w/ PIN entry):

The UP-800 can support end user requirements that also include processing debit card transactions that require PIN data entry using Datacap's Peripheral Device Controller in conjunction with the VeriFone 1000 PIN pad.
For this example in programming a media key to be used as a Debit settlement, a CASH2 media key will be used.

Debit transactions are immediate and are not part of any batch operations.

Procedure:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]
① Select [02 SETTING]
② Select [05 MEDIA]
③ Select [1 CASH]
④ Select the [2 CASH2] media key to be used for Debit payments
⑤ Enter the desired parameters and at minimum, set the following parameters:

- EFT/ACCT PROG. — EFT Compulsory
- EFT: — Dial
- EFT TYPE: — Debit
- Card# Print: — Yes or No
- Card# Format: — Full or Partial
- Sign. Line Print: — Yes or No
- Card Holder Print: — Yes or No
- Expiration Date Print: — Yes or No
- Number of Receipts: — 0 – 9 (usually 2)
- Tip Line Print — Yes or No

⑥ Depress [CA/AT] when all settings are completed to exit to the PGM2 Cash Sub-Menu
⑦ Depress [CANCEL] to exit the Cash Sub-Menu and return to the Media preset menu

NOTE:
Repeat steps 4 thru 7 for each subsequent cash settlement key to be programmed as a debit finalization key.

Gift Card Finalization Keys:

Procedure:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]

① Select [02 SETTING]
② Select [05 MEDIA]
③ Select [02 CHECK]
④ Select the desired Check media key(s) to be used for Gift Card Redemptions (CHECK1 – CHECK9)
⑤ Enter the desired parameters:

- EFT/ACCT PROG.: EFT Compulsory
- EFT: Dial
- EFT Type: GIFT
- Card# Print: No
- Card# Format: Full
- Sign. Line Print: No
- Card Holder Print: No
- Expiration Date Print: No
- Number of Receipts: 0 – 9

⑥ Depress [CASH] when all settings are completed to exit to the PGM2 Check Sub-Menu
⑦ Depress [CANCEL] to exit the Charge Sub-Menu and return to the Media preset menu

NOTE:
Repeat steps 4 thru 7 for each subsequent check settlement key to be programmed as a check finalization key

Auth-Only / Post-Auth Finalization Keys:

The UP-800 can support end user requirements that include posting advances against a patron's credit card. For this example in programming a media key to be used for an Auth-only request, a CHARGE 2-9 media key will be used.

Procedure:

Enter the PGM2-Mode by depressing the [MODE] key and selection [6 PGM2 MODE]

① Select [02 SETTING]
② Select [05 MEDIA]
③ Select [03 CHARGE]
④ Select the [2 CHARGE2 and 3 CHARGE 3] media key to be used for AUTH-ONLY and POST-AUTH payments
⑤ Enter the desired parameters:

- EFT/ACCT PROG.: EFT Compulsory

- EFT: Dial
- EFT Type: AUTH-ONLY / POST-AUTH*
- Card# Print: Yes or No
- Card# Format: Full or Partial
- Sign. Line Print: Yes or No
- Card Holder Print: Yes or No
- Expiration Date Print: Yes or No
- Number of Receipts: 0 – 9

⑥ Depress [CASH] when all settings are completed to exit to the PGM2 Cash Sub-Menu
⑦ Depress [CANCEL] to exit the Cash Sub-Menu and return to the Media preset menu

NOTE: A POST-AUTH finalization key is required to settle the Auth-Only transaction.

Section-4: DataTran Functions

When implementing the DataTran modem, select functions have been incorporated to allow for remote support and management of EFT enabled terminals.

Incorporated Functions:

The following list of functions has been implemented in the UP-800 POS terminal:

Function	Description for Usage
Initialization	Used after installation is complete
	Used to initialize the DataTran whenever power is removed
Open Batch	When terminal-based processors used: must be accomplished daily prior to accepting credit cards for that business day
Close Batch	When terminal-based processors used: must be accomplished daily in order to settle credit card sales transaction at the host
Dial Out	When the Tel No. and Tel ID are preset: this is used to dial out to Datacap's host to download the merchant parameter file
Dial In	Places the DataTran into an access state where remotely Datacap may dial into the terminal to load a merchant parameter file

1. DataTran Initialization:

Procedure:

Press the [MODE] key and choose [06 PGM2 MODE]
① Select [15 EFT SETTING]
② Select [1 EFT]
③ Select [1 INITIALIZE]
④ Depress [CANCEL] to exit and return to REG-mode

NOTE:
The Initialize operation does not affect the DataTran totals and may be executed whenever necessary to insure proper operations.

IMPORTANT:
Once the POS and EFT settings have been completed and the equipment is connected, it is important that the DataTran unit be initialized. It is also important to remember that the Initialization function should be conducted every time AC power is removed from the DataTran unit.

2. DataTran Open Batch:

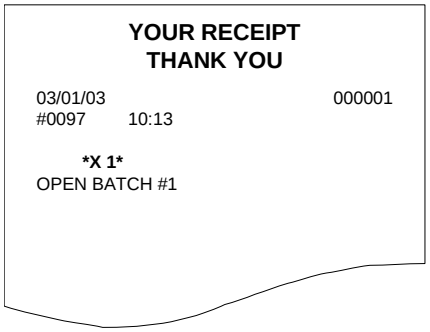
Required at the start of each day, this procedure prepares the DataTran for processing credit cards.

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]
① Select [6 EFT]
② Select [1 EFT]
③ Select [1 BATCH EXECUTE]
④ Select [1 OPEN BATCH] to print a receipt chit
⑤ Depress [CANCEL] to exit and return to REG-mode

NOTE:
When the Open Batch operation is executed when the batch is already open, the “Batch Already Open” message will be returned.

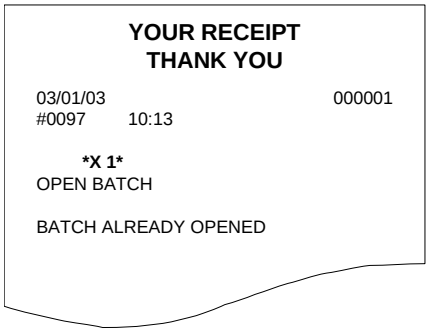
Print Example:



OPEN BATCH message and Batch No. is printed

In case the batch is already opened:

Print Example:



BATCH ALREADY OPENED message is printed

3. DataTran Close Batch:

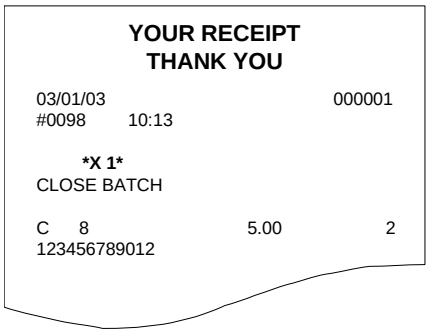
Required at the end of each day, this procedure posts the credit, check and debit transactions to the clearinghouse.

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]
① Select [6 EFT]
② Select [1 EFT]
③ Select [1 BATCH EXECUTE]
④ Select [2 CLOSE BATCH] this will automatically start to print a chit.
⑤ Depress [CANCEL] to exit and return to REG-mode

NOTE:
When the Close Batch operation is executed when the batch is already open, the “Batch Already Open” message will be returned.

Print Example:


YOUR RECEIPT
THANK YOU

03/01/03 000001
#0098 10:13

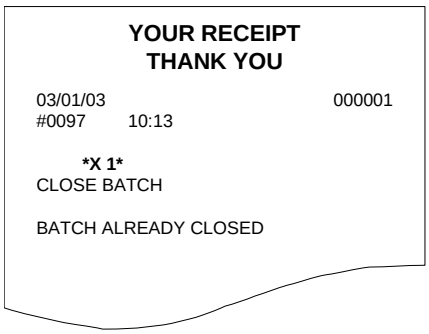
X 1
CLOSE BATCH

C 8 5.00 2
123456789012

CLOSE BATCH message, Batch No., Total Amount, Number of Credit card sales settled is printed

In case the batch is already closed:

Print Example:


YOUR RECEIPT
THANK YOU

03/01/03 000001
#0097 10:13

X 1
CLOSE BATCH

BATCH ALREADY CLOSED

BATCH ALREADY CLOSED message is printed

4. DataTran Clear Batch:

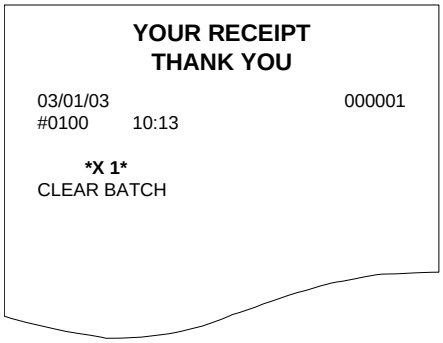
This procedure should only be used under the direction of Sharp or authorized dealer. All Transaction in the DataTran will be erased.

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]
⑥ Select [6 EFT]
⑦ Select [1 EFT]
① Select [1 BATCH EXECUTE]
② Select [3 CLEAR BATCH] This will automatically start to print a chit.
③ Depress [CANCEL] to exit and return to REG-mode

CAUTION:
When the Clear Batch operation is executed the totals within the batch are eliminated. Only execute this job when instructed.

Print Example:


YOUR RECEIPT
THANK YOU
03/01/03 000001
#0100 10:13
X 1
CLEAR BATCH

CLEAR BATCH message is printed

5. DataTran Change Batch:

This procedure should only be used under the direction of Sharp or authorized dealer. All Transaction in the DataTran will be erased.

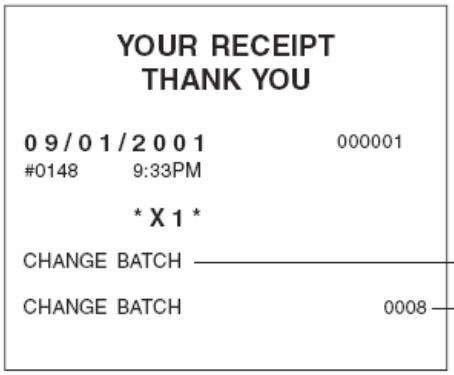
Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]
① Select [6 EFT]
② Select [1 EFT]
③ Select [1 BATCH EXECUTE]
④ Select [4 CHANGE BATCH]
⑤ Enter the informed Batch Number followed by depressing the [ENTER] key

⑥ This will automatically start to print a record of the change
⑦ Depress [CANCEL] to exit and return to REG-mode

CAUTION:
The Change Batch operation is executed under certain circumstances such as when the storeowner changes the type processor to be used for settlements. Only execute this job when informed to do so.

Print Example:



Name of Inquiry Report

New Batch No.

CHANGE BATCH message is printed

6. DataTran Dial Out:

Procedure:

Press the [MODE] key and choose [06 PGM2 MODE]
① Select [15 EFT SETTING]
② Select [1 EFT]
③ Select [2 DIAL OUT] The UP-800 will initiate the Dial Out operation
④ Depress [CANCEL] to exit and return to REG-mode
When the load is complete the version message is printed on the journal printer

NOTE:
The Dial Out operation may be executed when the merchant's file (TEL ID) is preset in the memory of the UP-800.

IMPORTANT:
Extra charges may apply - please verify the type of service you are eligible for.

7. DataTran Dial In:

Procedure:

Press the [MODE] key and choose [06 PGM2 MODE]

① Select [15 EFT SETTING]
② Select [1 EFT]
③ Select [3 DIAL IN] – the UP-800 will initiate the Dial In operation
④ Depress [CANCEL] to exit and return to REG-mode

When the load is complete the version message is printed on the journal printer

NOTE:
The Dial In operation may be executed when prior notification to Datacap has been arranged and the merchant parameters are prepared.

IMPORTANT:
Extra charges may apply - please verify the type of service you are eligible for.

Section-5: Sales Operations

There are three basic sales operations in REG-mode, which may or may not be settled by the EFT.
Finalization method outlined in the next section. They are 1-Normal, 2-Guest Check and 3-Employee Sales.

UP-800 Sales Finalization Methods

Finalization of sales entries that require "Electronics Funds Transfer" (EFT) may be accomplished using one of the following methods outlined in the chart below.

Type Sales	Type Finalization					
Entry Type	Credit Card	Check Card	Check	Debit (W/PIN)	Auth/Post Auth	Edit Tip
Normal Sales	O	O	O	O	X	X
Guest Check (GLU)	O	O	O	O	O	O
Customer Sales	O	O	O	O	X	X
O = Yes, X = No						

Additional Notes:

- Edit Tips

  The [Edit Tip] function is designated for use when entering "CH-Tips" after the patron has indicated the tip amount while the patron is signing the restaurant's copy of the approval draft.

  Because the UP-800 terminal provides 2 types of number generation systems (Auto & Table#) for opening the guest check, a unique "Bill No." is generated at the time of media payment and is stored into the "Closed Check" file for future reference when "Tip" entries are made using the [Edit Tip] function.

- Guest Check Payments

  Based on the system setup, guest checks may be settled by either a single payment or 2-types of multiple payment methods. (1) Single payment: when a single person pays a guest check or (2) when the guest check may be split into multiple checks.

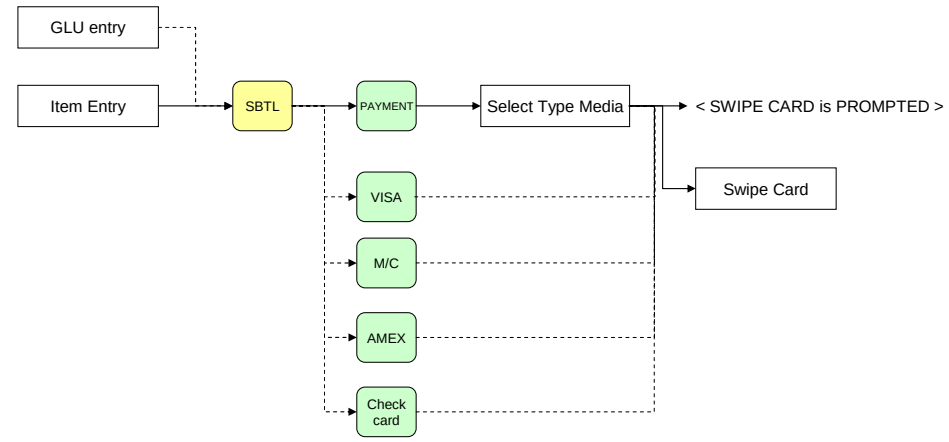
1. Finalization with a Credit Card

Finalizations of sales entries are accomplished with two methods through the Charge media keys.

Credit Cards Finalization

Example Operation:

Card Swipe Method

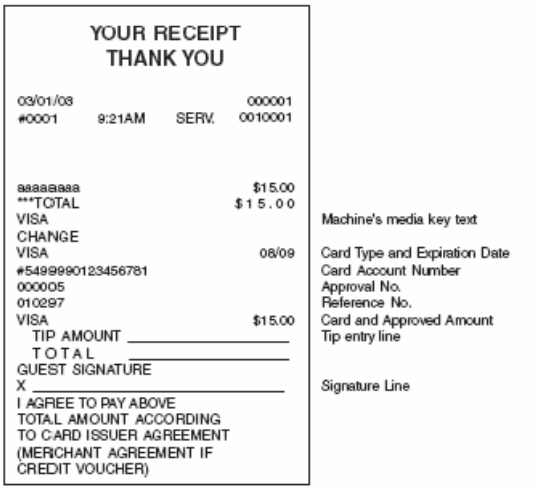


NOTE:
When a [CH TIP] entry exists, the sale must be finalized to the Charge media key by the amount of the Tip at a minimum in order to complete the sale.

Example: Item entry = $10.00 [CH TIP] = $ 2.00
* $2.00 must be finalized to a Charge media key minimally before any other media type is selected.

Usage Method:
For further details on making sales entries, please refer to the UP-800's Instruction Manual

Example Receipt:


YOUR RECEIPT
THANK YOU

03/01/08 000001
#0001 9:21AM SERV. 0010001

aaaaaaaa $15.00
***TOTAL $15.00
VISA
CHANGE
VISA 08/09
#5499990123456781
000005
010297
VISA $15.00
TIP AMOUNT _____
TOTAL _____
GUEST SIGNATURE
X _____
I AGREE TO PAY ABOVE
TOTAL AMOUNT ACCORDING
TO CARD ISSUER AGREEMENT
(MERCHANT AGREEMENT IF
CREDIT VOUCHER)

Machine's media key text
Card Type and Expiration Date
Card Account Number
Approval No.
Reference No.
Card and Approved Amount
Tip entry line
Signature Line

2. More on Guest Check Finalization with Credit Cards

When using the Guest Check function of the UP-800 and if multiple persons in the party wish to make payments using their individual credit cards, two methods are available for credit card settlement:

- Bill Separate
- Individual Payment

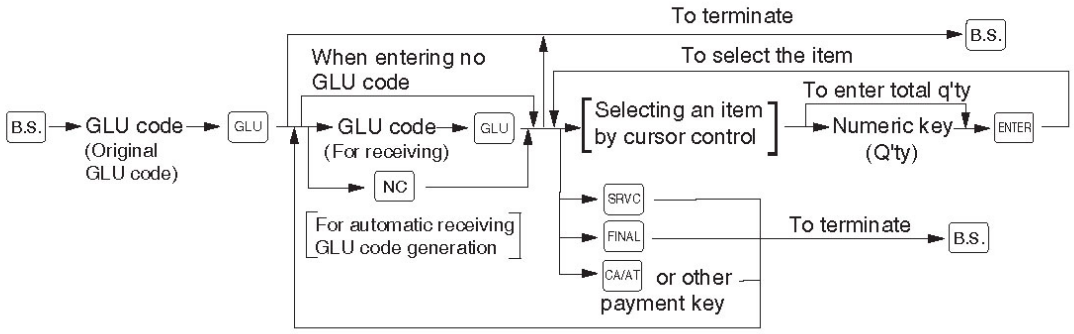
NOTE:
A “Split-Tender” will not be sufficient nor recommended in the above situation because the Bill# is only generated during a Guest Check operation.

Guest Check Entry – with Bill Separate

It is possible to "split" the items from the original guest check to separate checks before or during payment operations.

Example Operation:

Procedure



NOTE:
In the above cases, it is possible to utilize the [EDIT TIP] for Charge Tips when the "Tip" has not been entered, the Closed Check File exists, and the sale has been finalized through the "Charge media" which has been programmed to "Retain" the check.

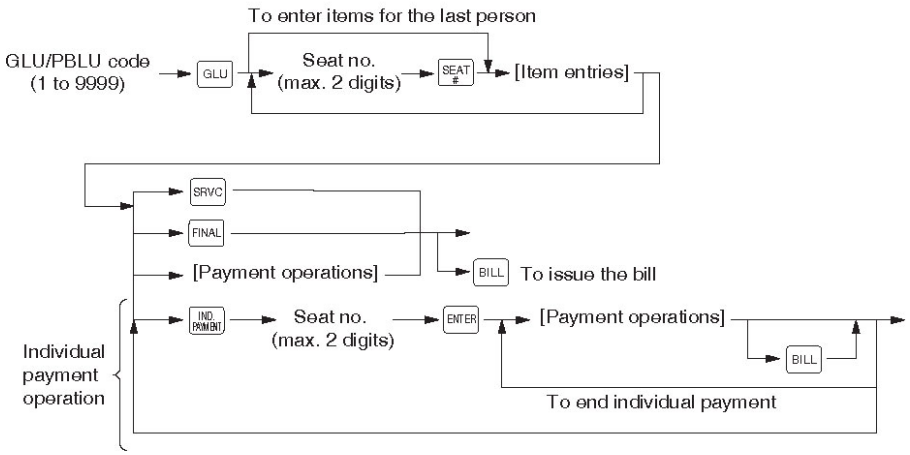
Usage Method:
For further details on making sales entries, please refer to the UP-800 Instruction Manual.

Guest Check Entry – with Individual Payment

When guest check entries have been entered using [COVER COUNT] and [PERSON#] entries, it is possible to individually pay by the person, which separates the Bill into multiple payments.

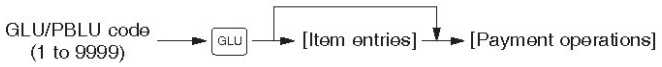
Example Operation:

Procedure



Settlement
Use the following procedure:

Procedure



NOTE *You can make a tip-in entry before a tender entry. For a tip-in entry, the tip amount must be entered by using the associated media key e.g. CH1 thru CH9 for the charge tip and CASH 1 thru CASH 5 for the cash tip.*

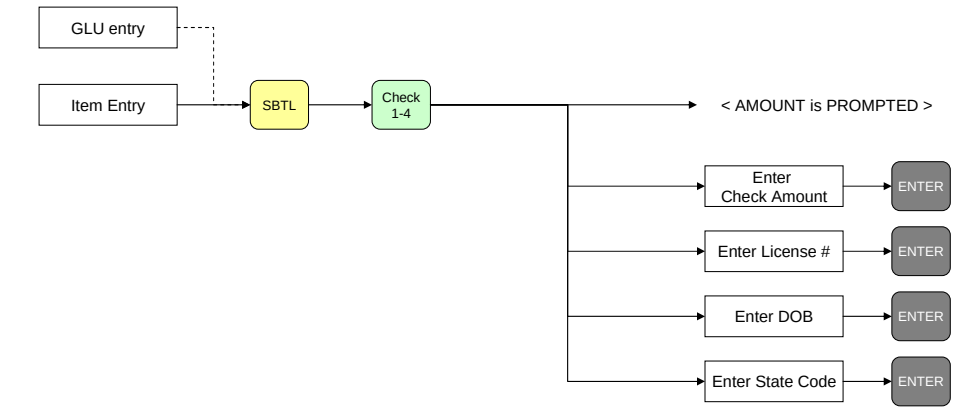
Usage Method:
For further details on making sales entries, please refer to the UP-800 Instruction Manual.

3. Finalization with a Check

Finalizations of sales entries are accomplished with manual data entry when using the Check media keys.

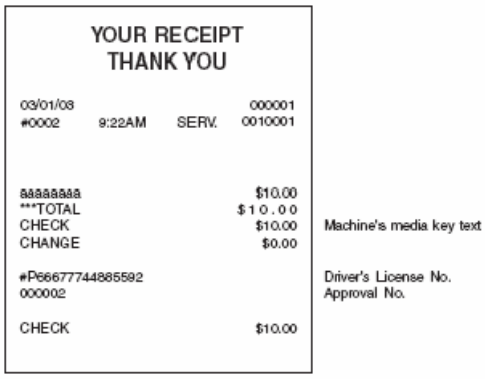
Example Operation:

Check Entry Method



Usage Method:
For further details on making sales entries, please refer to the UP-800 Instruction Manual.

Example Receipt:



YOUR RECEIPT
THANK YOU

03/01/08 000001
#0002 9:22AM SERV. 0010001

aaaaaaaa $10.00
***TOTAL $10.00
CHECK $10.00
CHANGE $0.00

#P66677744885592
000002

CHECK $10.00

Machine's media key text

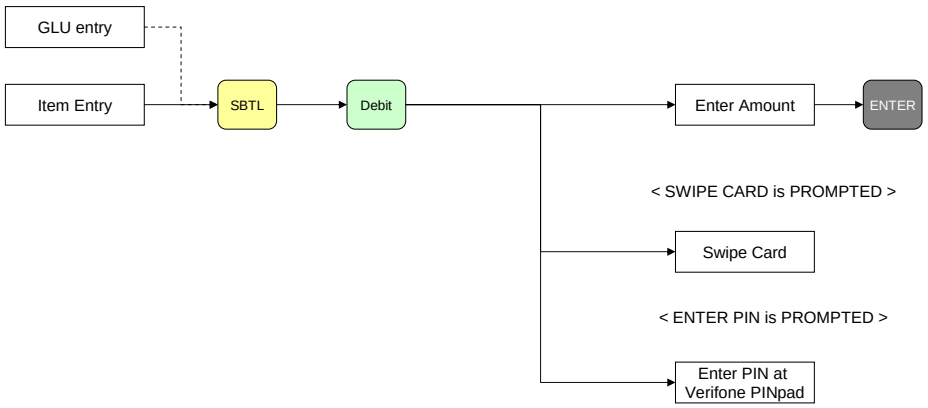
Driver's License No.
Approval No.

4. Finalization with a Debit

Finalization of sales entries with a Debit media will require PIN data entry when using the Debit media keys.

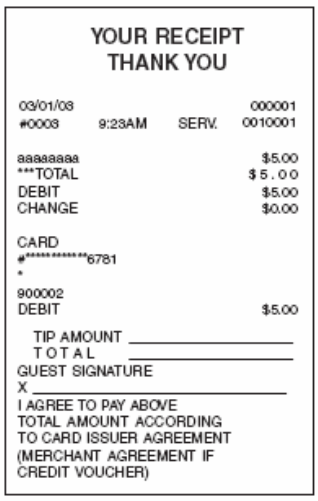
Example Operation:

Debit Entry Method



Usage Method:
For further details on making sales entries, please refer to the UP-800 Instruction Manual.

Example Receipt:



YOUR RECEIPT
THANK YOU

03/01/08 000001
#0008 9:23AM SERV. 0010001

aaaaaaaa $5.00
***TOTAL $5.00
DEBIT $5.00
CHANGE $0.00

CARD
#**********6781
*
900002
DEBIT $5.00

TIP AMOUNT _____
TOTAL _____
GUEST SIGNATURE
X _____
I AGREE TO PAY ABOVE
TOTAL AMOUNT ACCORDING
TO CARD ISSUER AGREEMENT
(MERCHANT AGREEMENT IF
CREDIT VOUCHER)

Machine's media key text

Generic text "CARD"
Partial Card Account No.

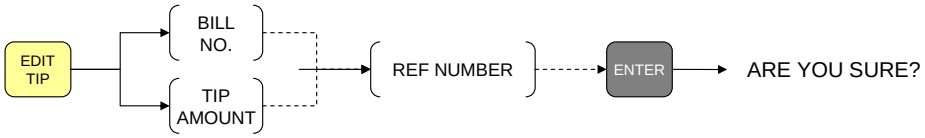
Approval No.

5. Edit Tip Function

The Edit Tip function is provided when a Guest Check has been finalized through a Media key which has been preset to “Retain” the Closed Check with the Closed GLU file.

To modify/add a Tip Amount is to be added/modified the below procedure may be used:

Example Operation:



Entry of Yes:

Will result in the addition of a Tip amount to the pre-existing Guest Check with the Closed GLU file

NOTE:
Media payments must be programmed to retain the guest check sale in order to use the Edit Tip function.

Usage Method:
For further details on making sales entries, please refer to the UP-800 Instruction Manual.

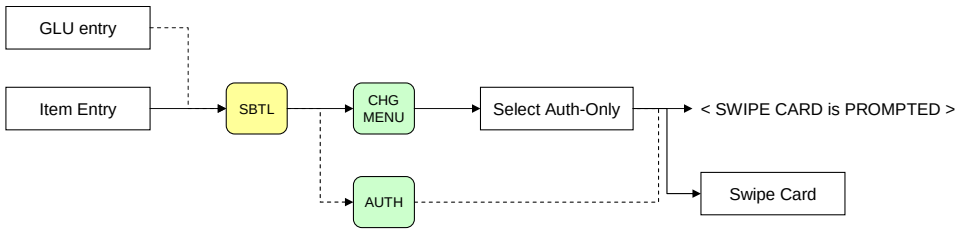
Please consider the general rules listed below when using this feature:

- The Bill Number and Reference Number is obtained from the original Bill printed at the time of authorization
- If necessary, the Closed Check Report and the Local Summary report may be used to determine the Bill Number and Reference Number

6. Auth-only Sales

The UP-800 allows support for Authorization only requests, which may be used advances, will be made against a credit card (i.e. bar tab, etc).

Example Operation:



Usage Method:
For further details on making sales entries, please refer to the UP-800 Instruction Manual.

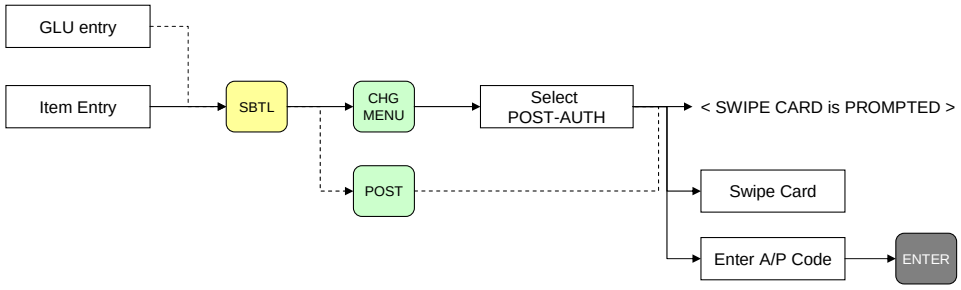
Please consider the general rules listed below when using this feature:

- [DEPOSIT] and [DEPOSIT RF] functions of the UP-800 are methods that may be used in relationship to Guest Check entries to provide credit balances for sales entries to work against

7. Post - Auth Sales

The Post-Auth Sales may only be entered against a sale that has been previously finalized through the "Auth-only" process.

Example Operation:



Usage Method:
For further details on making sales entries, please refer to the UP-800 Instruction Manual

Please consider the general rules listed below when using this feature:

- The Post-Auth allows the Auth-only sales transaction to clear during the batch process at the end-of-day

Section-6: Correction Operations

In order to provide the operator with the functions necessary to correct or adjust over rings and invalid entries, it is important to understand the correction functions available and is indicated in the chart below.

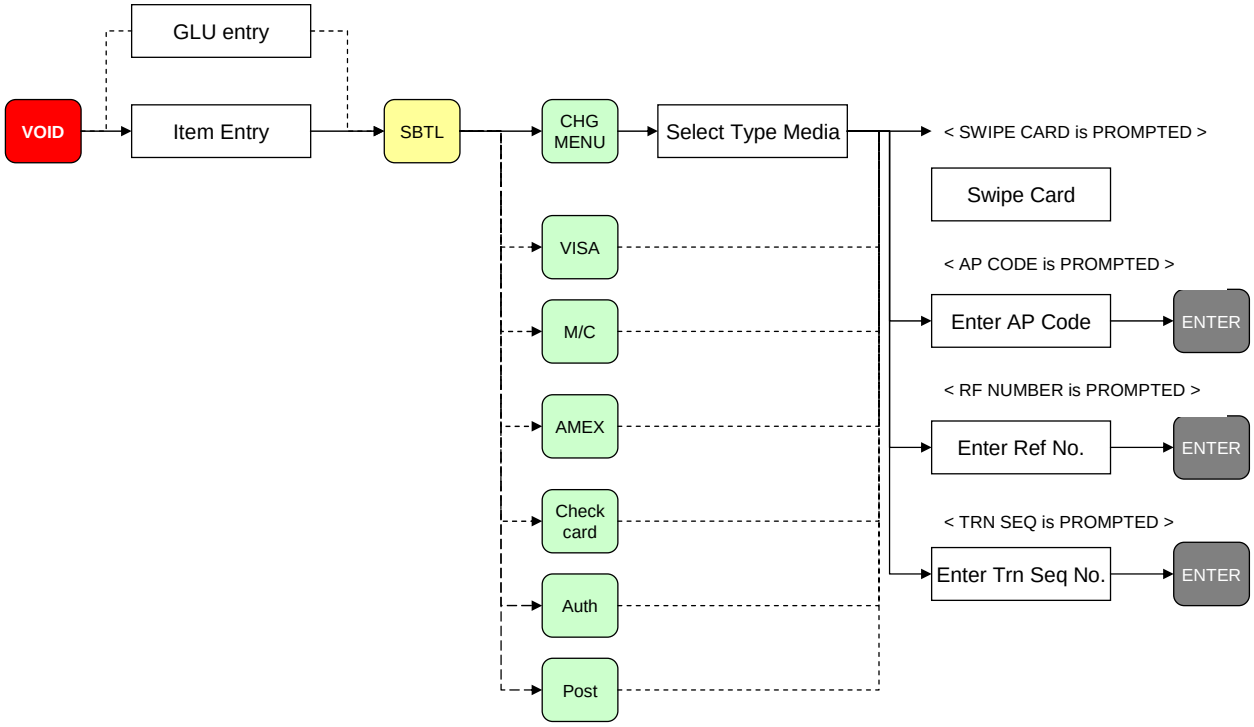
UP-800 Sales Correction Chart				
Type Sales	Type Correction			
Finalization Type	Direct Void	Past Void	Mgr Void	Refund
Credit Card	X	X	O	O
Check Card	X	X	O	O
Check	X	X	O	O
Debit (w/PIN)	X	X	X	X
Auth/Post Auth	X	X	O	X
O = Yes, X = No				

1. Void Corrections

In the event that a sales entry was incorrectly settled, it is possible to VOID that entry.

IMPORTANT:
Prior to making a VOID-mode entry, it is recommended that you execute the Local Inquiry report and locate the original receipt/bill so that all pertinent information is available

Example Operation:



NOTE:
The following type settlements are valid for VOID-mode corrections:

- Credit Card, Check Card, Auth-Only and Post-Auth Sales

Usage Method:
For further details on making sales entries, please refer to the UP-800 Instruction Manual.

Please consider the general rules listed below when using this feature:

- The Approval code may be obtained from the original receipt or the DataTran report
- The Reference Number may be obtained from the original receipt or the DataTran Local Inquiry report

Example Receipts

Example:

Original Receipt:

```
YOUR RECEIPT
THANK YOU

03/01/03                          000001
#0001     9:21AM     SERV.      0010001


aaaaaaaa                          $15.00
***TOTAL                          $15.00
VISA
CHANGE
VISA                                08/09
#5499990123456781
000005
010297
VISA                              $15.00
   TIP AMOUNT _____________________
   TOTAL      _____________________
GUEST SIGNATURE
X _____________________________
I AGREE TO PAY ABOVE
TOTAL AMOUNT ACCORDING
TO CARD ISSUER AGREEMENT
(MERCHANT AGREEMENT IF
CREDIT VOUCHER)
```

Machine's media key text

Card Type and Expiration Date
Card Account Number
Approval No.
Reference No.
Card and Approved Amount
Tip entry line

Signature Line

Receipt - Voided

```
YOUR RECEIPT
THANK YOU

03/01/03                          000001
#0001     9:21AM     SERV.      0010001

*VOID*

aaaaaaaa                          $15.00
***TOTAL                          $15.00
VISA
CHANGE
VISA                                08/09
#5499990123456781
000005
010297
VISA                              $15.00
   TIP AMOUNT _____________________
   TOTAL      _____________________
GUEST SIGNATURE
X _____________________________
I AGREE TO PAY ABOVE
TOTAL AMOUNT ACCORDING
TO CARD ISSUER AGREEMENT
(MERCHANT AGREEMENT IF
CREDIT VOUCHER)
```

Reference- Local Inquiry

```
YOUR RECEIPT
THANK YOU

03/01/03                          000001
#0137     9:21PM

*X1*

LOCAL INQUIRY                  ← Name of Inquiry Report
                               ← Transaction Code No.
1              A
372319051421000                ← Account Number
0203                           ← Expiration Date
000001                         ← Approval Code
000021                         ← Reference No.
                        10.00  ← Transaction Sales Amount
                         0.00  ← Gratuity
010901            232100
2              A               ← Status within the Batch
4430710010048805
0303
000003
000024
                        25.00
                         0.00
010901            232200       ← Date (yy/mm/dd) and Time (hh:mm:ss)
3              C
               :
```

A: Active (modifiable), C: Closed (not modifiable)
V: Voided, X: Settled (transmitted to network)

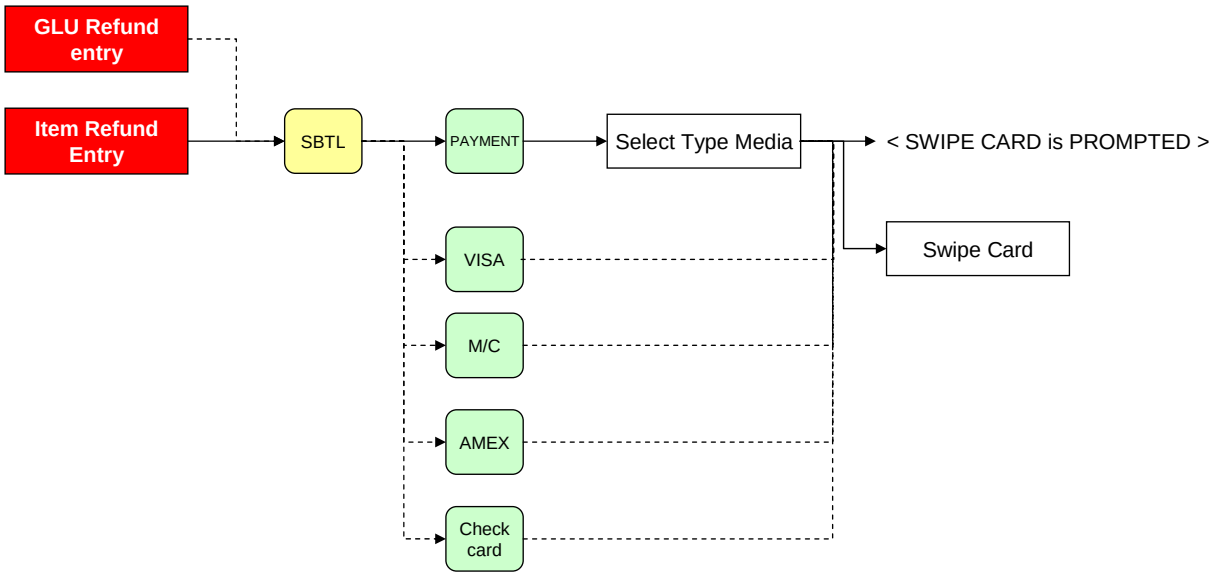
2. Refund Corrections

In the event that a sales item is returned, it is possible to refund that entry or sales transaction.

IMPORTANT:
Prior to making a Refund entry, it is recommended that you execute the Local Inquiry report and locate the original receipt/bill so that all pertinent information is available prior to operation.

Example Operation – Credit Card:

Card Swipe Method



NOTE:
The following types of settlements are valid for Refund corrections:

- Credit Card, Check Card and Debit Card

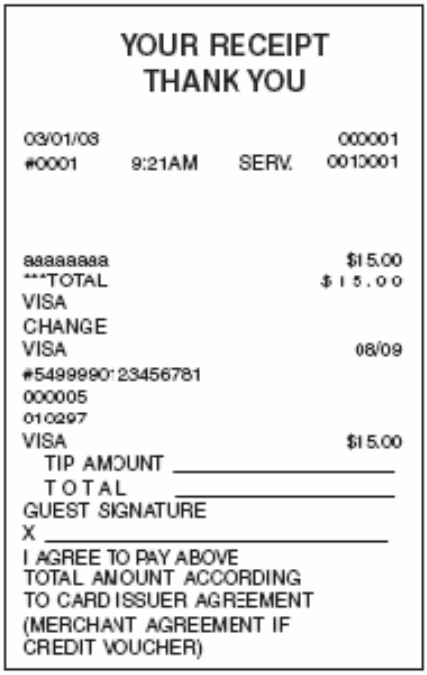
Usage Method:
For further details on making sales entries, please refer to the UP-800 Instruction Manual.

Please consider the general rules listed below when using this feature:

- Manual Account number entry is not permitted for Debit-type corrections
- A duplicate receipt may be obtained by depressing the [RCPT] key or the media key presets

Example Receipt

Example Receipts:



YOUR RECEIPT
THANK YOU

03/01/03 000001
#0001 9:21AM SERV. 0010001

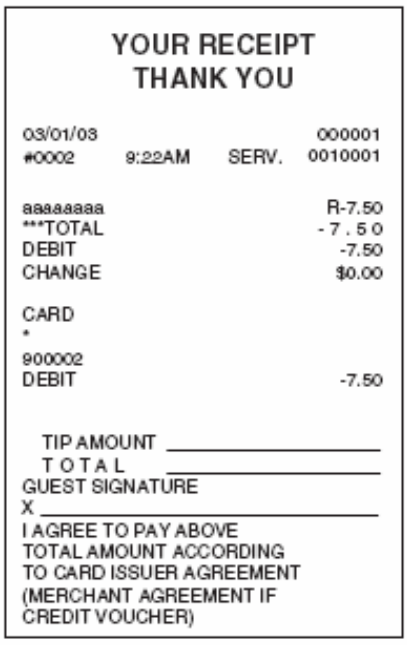
aaaaaaaa $15.00
***TOTAL $15.00
VISA
CHANGE
VISA 08/09
#5499990023456781
000005
010297
VISA $15.00
TIP AMOUNT _____
TOTAL _____
GUEST SIGNATURE
X _____
I AGREE TO PAY ABOVE
TOTAL AMOUNT ACCORDING
TO CARD ISSUER AGREEMENT
(MERCHANT AGREEMENT IF
CREDIT VOUCHER)

Machine's media key text

Card Type and Expiration Date
Card Account Number
Approval No.
Reference No.
Card and Approved Amount
Tip entry line

Signature Line

Refund - Debit



YOUR RECEIPT
THANK YOU

03/01/03 000001
#0002 9:22AM SERV. 0010001

aaaaaaaa R-7.50
***TOTAL -7.50
DEBIT -7.50
CHANGE $0.00

CARD
*
900002
DEBIT -7.50

TIP AMOUNT _____
TOTAL _____
GUEST SIGNATURE
X _____
I AGREE TO PAY ABOVE
TOTAL AMOUNT ACCORDING
TO CARD ISSUER AGREEMENT
(MERCHANT AGREEMENT IF
CREDIT VOUCHER)

Machine's media key text

Type Card and Expiration Date

Reference No.
Card and Approved Amount

Tip entry line

Signature Line

Section-7: Reports Operations

The UP-800 interface provides certain commands so the contents of the DataTran may be printed in a format allowing reconciliation between the POS terminal and the DataTran prior to executing the batch operations for closing the business day.

An important factor to keep in mind is which network provider is being used and the type of service that is being provided. The results from issuing Inquiry commands will vary depending upon whether the service provided is Host-based or Terminal based.

Report Command Functions:

The following command functions are provided:

- Local Transaction Summary
- Local Transaction Inquiry
- Local Status
- Batch Status

Report Command Functions – by Type Processor

Function by Type Processor

Command Function	Host-Based	Terminal-Based
Local Summary	X	O
Local Inquiry	X	O
Local Status (Totals)	O	O
Batch Status	O	O
O = Yes, X = No		

NOTE:
The above chart indicates the typical scenario and may not hold true for all networks.

1. DataTran Inquiry Report Examples

Local Summary:

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]
① Select [6 EFT]
② Select [1 EFT]
③ Select [2 REPORT]
④ Select [1 LOCAL SUMMARY] to print a hard copy of the DataTran data
⑤ Depress [CANCEL] to exit and return to REG-mode

- *After the Local Summary report finishes, the menu returns to the REPORT Sub-menu.*

Local Inquiry:

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]

① Select [6 EFT]
② Select [1 EFT]
③ Select [2 REPORT]
④ Select [2 LOCAL INQUIRY] to print a hard copy of the DataTran data
⑤ Depress [CANCEL] to exit

o *After the Local Inquiry report finishes, the menu returns to the REPORT Sub-menu.*

Local Totals:

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]

① Select [6 EFT]
② Select [1 EFT]
③ Select [2 REPORT]
④ Select [3 LOCAL TOTAL] This will automatically start to print a hard copy of the DataTran data
⑤ Depress [CANCEL] to exit and return to REG-mode

o *After the Local Total report finishes, the menu returns to the REPORT Sub-menu.*

Batch Status

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]

① Select [6 EFT]
② Select [1 EFT]
③ Select [2 REPORT]
④ Select [4 BATCH STATUS] this will automatically start to print a hard copy of the DataTran data
⑤ Depress [CANCEL] to exit and return to REG-mode

o *After the Batch Status report finishes, the menu returns to the REPORT Sub-menu.*

2. Associated UP-800 Report Examples

Depending on the UP-800 system configuration, the procedure will vary for taking the related reports used to cross-balance the system against the DataTran reports.

Transaction Report

For this example the UP-800 Standalone report is shown below:

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]
① Select [2 RESETTING]
② Select [12 TRANSACTION]
③ Select [1 DISPLAY] to view the report on the touch-screen or [2 REPORT PRINTER] to generate a hard copy
④ Depress [CANCEL] to exit

Example Report:

YOUR RECEIPT
THANK YOU

03/01/03 000001
#0141 9:26PM

#0130 * X 1 *

TRANSACTION			Report Name
TR		$0000000000.00	Training GT
(1)	0Q	$0.00	
:			
ST(-) TL	0Q	$0.00	
%1	0Q	$0.00	
:			
ST % TL	0Q	$0.00	Discounts & Markdowns
N E T 1		$369.30	Net1 Sales Total
TAX1 ST		$7.00	
:			
:			
NET3		$359.79	Net3 Sales Total
WASTE TL		$0.00	
	0Q		
CASH		$137.28	
DEBIT	13Q	$41.07	
CASH TL	4Q	$178.35	Total Cash Sales
	:17Q		
VISA		$163.44	
VISA M/C	11Q	35.00	
M/C-	2Q	$25.00	
	: 1Q		
CHR TL		1$169.44	Total Charge Sales
CHECK	16Q	$12.00	
	: 2Q		
CHECK TL		$12.00	Total Check Sales
CA+CH ID	2Q	$190.35	Cash & Charge
****CID		$178.35	Cash in Drawer
:			
TIP PAID	0Q	$0.00	
CH TIP	4Q	$15.00	Total Charge Tips

Server Report – Individual or All

For this example the UP-800 Standalone report is shown below:

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]

① Select [2 RESETTING]
② Select [15 IND. SERVER]
③ Select [1 DISPLAY] to view the report on the touch-screen or [2 REPORT PRINTER] to generate a hard copy
④ Depress [CANCEL] to exit

Example Report:

YOUR RECEIPT
THANK YOU

03/01/03 000001
#0142 9:27PM

#0141 * X 1 *

IND. SERVER			Report Name
SRV# 0001		SERV.001	Server Code & Name
NET1		$369.30	Net1 Sales Totalizer
CA TIP	0Q	$0.00	Cash Tips
CH TIP	4Q	$15.00	Charge Tips
TIP PAID	0Q	$0.00	Tip Paid
:			
NET3		$359.79	Net3 Sales Totalizer
:			
CASH	13Q	$137.28	Total Cash Sales
DEBIT	4Q	$41.07	Debit Cash Sales
:			
VISA	11Q	$163.44	Charge Sales
VISA-M/C	2Q	-35.00	
M/C-	1Q	$25.00	
:			
CHECK	2Q	$12.00	Check Sales Totalizer
:			
CA+CH ID		$190.35	Cash & Charge
****CID		$178.35	Cash in Drawer
:			
GROUP1	0Q	$0.00	Server Group Totalizers
GROUP2	0Q	$0.00	
GROUP3	0Q	$0.00	
GROUP4	0Q	$0.00	
GROUP5	0Q	$0.00	
GROUP6	0Q	$0.00	
GROUP7	0Q	$0.00	
GROUP8	0Q	$0.00	
GROUP9	0Q	$0.00	

Closed GLU Report

For this example the UP-800 Standalone report is shown below:

Procedure:

Press the [MODE] key and choose [3 X1/Z1 MODE]

① Select [2 RESETTING]
② Select [19 CLOSED GLU]
③ Select [1 DISPLAY] to view the report on the touch-screen or [2 REPORT PRINTER] to generate a hard copy
④ Depress [CANCEL] to exit

Example Report:

YOUR RECEIPT
THANK YOU

03/01/03 000001
#0143 9:27PM

#0182 * X 1 *

CLOSED GLU			Report Name
		0001 - 9999	Bill Range
0002#		0001	BILL number and Server Code
000000005#			GLU Number
COVER CT	1 Q		Cover Count
CREDIT		$6.00	Charge Amount
TIP AMT		$2.00	Tip Amount
FIN.BAL			
***TOTAL			
COVER CT	1 Q		Total Covers
CREDIT	1 Q	$6.00	Total Charges - by type card
TIP AMT	1 Q	$2.00	Total Tips
FIN.BAL	1 Q	$8.00	Total Sales + Tips

Glossary of Terms

The interface for credit and debit card authorization for the UP-800 will introduce new terminology, which you should understand prior to installing the EFT solution. For those not already familiar with the terminology associated to processing payments electronically, the definition below may be helpful.

Terminology

1. Network Programming
   Involves the Merchant Set Up information stored within the DataTran unit. The Merchant parameters in the DataTran may be loaded via the UP-800 DIAL OUT or DIAL IN commands.

2. Initialization
   Used to synchronize/ initialize the DataTran unit upon installation, after setting changes at the UP-800 and for unexplained occurrences when the DataTran ceases t function normally.

3. Batch Execution
   There are four (4) commands supported in the UP-800 interface.
   (1) Open Batch used to start the business day
   (2) Close Batch is used to settle the credit transaction at the end of day
   (3) Clear Batch is used to erase all current batch transactions when batch settlement can not be achieved
   (4) Change Batch No. is used to change the existing batch number when replacement (loaner) units are installed and/ or when there is a conflict at the processor and network advises you to change the batch number.

4. Reports
   There are four (4) different reports to be used with the DataTran interface
   (1) Local Summary report is used to indicate the summary information pertaining to each processed
   (2) Local Inquiry report retrieves each record from DataTran in detail (ex: Date, time, etc.)
   (3) Local Total report summarizes the DataTran's totalizers by Credit Card company
   (4) Batch Status report is used to determine the status of the DataTran at that specific time the repot is initiated.

DataTran Command Reference

The following table cross-references the POS functions to the DataTran command functions:

Category	ECR Function	DataTran Command	Comments
Setup	Dial In	AT&UF1, AT&UH	"Switches in/out of FTS Mode"
	Dial Out	AT&UF1, AT&UH, AT&UP96	
	Initialize	AT&UF1, AT&C1, AT&UT0, AT&UT1, AT&UP98, AT&UP96	
Operations	Credit	AT&UM4	"Auth amount is calculated using AMOUNT% preset in EFT setting"
	Check	AT&UM2	
	Debit	AT&UM4, AT&US1, AT&UV3	
	Auth	AT&UM1	
	Post Auth	AT&UM13	
Corrections	VOID Credit	AT&UI6, AT&UI8, AT&UM9	
	Refund Credit	AT&UM8	
	Refund Debit	AT&UM8, AT&US1, AT&UV3	
Tips	Edit Tip	AT&UM19	Must Have Closed GLU file allocated
Reports	Local Summary	AT&UI5	"Should take these reports prior to and after closing the batch"
	Local Inquiry	AT&UI8	
	Local Total	AT&UI7	
	Batch Status	AT&UI9	
Batch Execution	Open Batch	AT&UB1	"Beginning and Ending Day procedures should include these jobs"
	Close Batch	AT&UB3	
	Clear Batch	AT&UB6	
	Change Batch	AT&UB7	

Quick Setup

The following table summarizes the quick set up procedure for the UP-800. It assumes that the DataTran has been received with the merchant parameters loaded or that the DataTran has been loaded with a Demo program.

Step	ECR Mode	Action	Related Preset
1	Off	Install all Options (RAM, Etc.)	
2		Connect all Peripherals (DataTran, etc.)	
3	SRV	Master Reset	Depress [MASTER RESET1] and enter the password: "11111111" and wait for to SRV.
4		Set Device Configuration	2 SETTING, 01 DEVICE CONFIG. 17 EFT, 18 PINPAD, 27 IC CARD
5		Set System Presets	2 SETTING, 02 SYSTEM PRESETS, JOB#902, JOB#916, JOB#918, JOB#921
6		Set Free Key Layout	2 SETTING, 06 FREE KEY
7		Allocate Memory	2 SETTING, File Allocation - Closed GLU
8	PGM2	Set EFT presets	15 EFT SETTING, 1 EFT PRESET
9		Set Pin Pad presets	15 EFT SETTING, 3 PIN PAD
		Department/PLU Programming (Gift Card)	02 SETTING, 01 ARTICLE
10		Set Media Key presets	2 SETTING, 05 MEDIA, 01 CASH, 02 CHECK, 03 CHARGE
11		Initialize DataTran	15 EFT SETTING, 2 EFT PRESET, 1 INITIALIZE

Section – 8: SD CARD UTILITIES

Section-1: Overview

The UP-800 POS Terminal has a SD Memory card slot which is used for saving or loading the terminals data. In order to access the SD Functions, you will need to be in SRV Mode.

The SD Card slot is located on the right hand side of the unit.

NOTE:
This model supports SD cards only. The use of any other types of SD cards, such as miniSD, microSD, etc. with an adapter, is not supported.

1. Formatting the SD memory card:

You can format the SD card from the UP-800. Please note that you can format a SD card using a PC.

Warning: Formatting the SD card will erase all of the data on the SD card.

Procedure:

- Perform a PROGRAM RESET to enter SRV mode. (Toggle the RESET switch located on the right hand side of the unit.)
- Press [6 SD CARD MODE]
- Select [5 FORMATTING]
- At the “Are You Sure Prompt” prompt, choose [1.YES]

2. Folder Names and Folder Creation

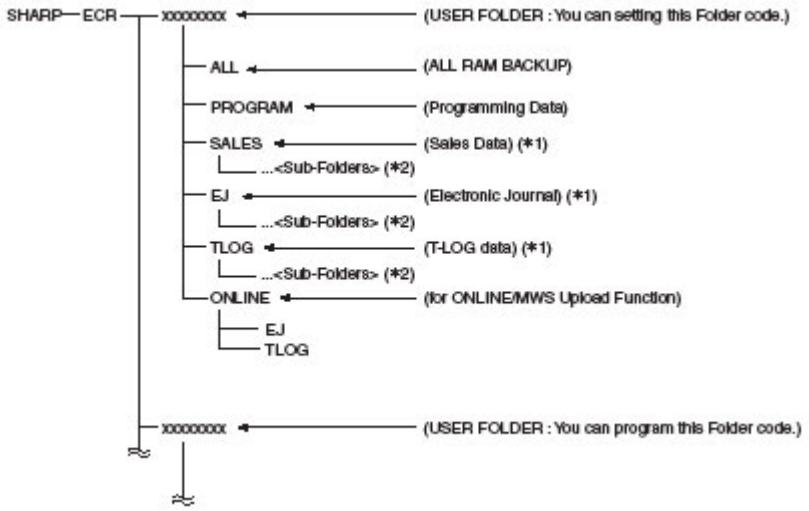
Folder Names are used for file/folder structure. Folder names can be up to 8 characters long. Please note that alphanumeric characters can be used.

Each individual program will need to have a unique folder name. If the same folder name is used, your program will be overwritten.

Procedure:

- Perform a PROGRAM RESET to enter SRV mode. (Toggle the RESET switch located on the right hand side of the unit.)
- Press [6 SD CARD MODE]
- Select [3 FOLDER CONTROL]
- Select [1 FOLDER NAME]
- Enter the desired folder code and press [ENTER]
- Press [2 FOLDER CREATE]
- At the “Are You Sure Prompt” prompt, choose [1.YES]

The folder structure on the SD memory card is as follows:



3. Loading or Saving Data

The UP-800 supports the loading of programming data and ALLRAM data and supports the saving of sales data, electronic journal data, or programming data to the SD memory card.

NOTE: You must set the correct folder name before any saving or loading operation. Failure to do so will result in unintentionally overwriting a program.

Load Procedure:

- Perform a PROGRAM RESET to enter SRV mode. (Toggle the RESET switch located on the right hand side of the unit.)
- Press [6 SD CARD MODE]
- Select [2 LOADING]
- Select one of the following: [1 PROGRAMMING DATA] or [2 ALL RAM DATA]
- At the “Are You Sure Prompt” prompt, choose [1.YES]

Save Procedure:

- Perform a PROGRAM RESET to enter SRV mode. (Toggle the RESET switch located on the right hand side of the unit.)
- Press [6 SD CARD MODE]
- Select [1 SAVING]
- Select one of the following: [1 SAVE ONLY] or [1 SAVE & CLEAR]
- At the “SD CARD JOB – SAVING prompt, select [1.OK]

Usage Method:
Insure that you know whether or not the optional Memory was installed when this program was initially saved prior to sending the ALL RAM data to the UP-800

Please consider the general rules listed below when using this feature:

- For the In-Line Configuration please insure the system is not physically connected to a network during transmission

IMPORTANT:
A PROGRAM RESET is MANDATORY after the completion of this function

4. Error Codes

No.	Description	MESSAGE	DISPLAY	PRINT
1	SD JOB Normal End	SD FINAL	—	O
2	SD card is not found	NO CARD	O	—
3	SD card memory is full	CARD FULL	O	O
4	No file exist	NO FILE	O	O
5	File access error (Write protect, or)	FILE FAILED	O	O
6	999 times limitation error (SALES, E.J, T-LOG)	OVER LIMIT.	O	O
7	Operation was canceled by [CANCEL] key	SD CANCELED	O	O
8	Power off was occurred during SD card access	POWER OFF	O	O
9	Designated folder does not exist	NO FOLDER	O	O
10	Model is invalid	MODEL INVALID	O	O
11	Card Protect Error	CARD PROTECT	O	O
12	SD CARD ERROR (Error except above 2 - 11 ERROR was occurred) (Folder can not be made) (File close can not be executed) (File can not be read) (File can not be written) (File can not be deleted) (SD card memory can not be mounted) (SD card memory can not be unmounted) (SD job execution during ONLINE/MWS communication)	SD ERROR	O	O

(O : Used, — : Not used)

5. Additional Resources

For additional information, please refer to the UP-800 Field Service Programming Manual.